

LUXMATE Software

**Building Management Software
BMS**

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BMS**

Getting oriented with the instruction manual

We are pleased that you have selected LUXMATE. In order to make it easier to get oriented with the instruction manual, this chapter provides information on the following topics:

- Target groups
- Structure of the instruction manual
- Additional help
- Characters and symbols used in the instruction manual

Target groups

At LUXMATE, **people come first**. For this reason, this instruction manual is structured in a way that caters to the target groups and is objective-oriented. Target groups who will find helpful information in this instruction manual include:

- Planners
- Programmers

Structure of the instruction manual

An asterisk (*) identifies those chapters which are particularly important for the various target groups.

Chapter		Planners	Programmers
LUXMATE	chap. 1, page 1	*	*
LUXMATE BMS interface	chap. 2, page 5	*	*
Connection	chap. 3, page 7	*	*
Protocol	chap. 4, page 15		*
Commands and responses	chap. 5, page 23		*
Licensing	chap. 6, page 109		*
Programming	chap. 7, page 113		*
Glossary	app. A, page 137	*	*
LUXMATE types	app. B, page 138		*
LM-SI03 configuration	app. C, page 141		*
License agreement	app. D, page 145		*
Index	app. E, page 149	*	*

The **objective-oriented actions** which are to be carried out are located at the **centre** of the instruction manual. **Descriptions** form the **outer sections** of the instruction manual. They are intended to help all target groups get better acquainted with LUXMATE and the LUX-MATE BMS interface. They contain, for example, descriptions of the terms. **Cross references** in the descriptions direct you to the relevant actions.

Additional help

More precise information regarding the design and functioning of your LUXMATE installation can be found in our product and system documentation or in the instruction manuals supplied with the LUXMATE installation.

If you have any specific questions, please get in touch with your contract sales office.

General information on our products is available on our homepage, www.luxmate.com.

Characters and symbols used in the instruction manual

The following characters and symbols are used in this instruction manual:

▶	For procedures which consist of a single action, a ▶ appears in front of the action text. For procedures consisting of more than one action, each action is numbered.
≡	After several actions you will find a result statement for the action. Such result statements are marked by a ≡ symbol at the beginning of the line.
—	Prerequisites which must be checked prior to any action have been marked with the — symbol.
i	Information is indicated by the i symbol. In addition, this text is located on a gray field.
?	Help texts on potential problems have been marked with the ? symbol. Symptom, cause and remedy of the problem are rendered in the help texts. In addition, this text is located on a gray field.
⚠	Warnings are marked with the ⚠ symbol. The warnings encompass the source of the danger, the consequence of the danger as well as corresponding action instructions. In addition, this text is located on a gray field.

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1 LUXMATE

This describing chapter informs you about the ...

- LUXMATE philosophy
- LUXMATE scenes
- LUXMATE daylight-dependent control of the artificial light
- LUXMATE daylight-dependent control of the blinds
- LUXMATE time control
- LUXMATE sequence control
- LUXMATE dynamic control of the artificial light
- LUXMATE addressing
- LUXMATE type

1.1 LUXMATE philosophy

LUXMATE wishes to **create unique environments using light**. Light and glare are the deciding factors in workspace design, as they have a direct effect on people's well being, their ability to concentrate and their efficiency. Through the use of innovative approaches, the light and room management from LUXMATE puts people first. Special emphasis is placed on the ergonomically and energetically-optimized room function control.

With easy-to-use, intuitive operating elements, the room scenario is adapted easily and effectively to individual preferences and differing workspace arrangements.

1.2 LUXMATE scenes

Our experiences of the environment in which we live are sensory-based. The warm light of a sunset effects us differently than the gray sky on a rainy day. Conditions in our environment effect our personal mood. The respective personal LUXMATE scene determines the success of our activities. LUXMATE's objective is to always create the right LUXMATE scene in a room and thereby the suitable LUXMATE personal mood.

A LUXMATE scene in a room results from the natural environmental conditions (weather, time) and the LUXMATE installation. Brightness, light balance and the position of blinds all effect people in a room as much as opened windows, temperature and air exchange.

The LUXMATE equipment can be optimized for each activity and type of room usage. The respective composition is then saved as a LUXMATE scene. Each LUXMATE output continually saves its value for this LUXMATE scene. This LUXMATE scene can now be called up from any LUXMATE touch panel in the room.

You can also deviate from these scenes and adjust the LUXMATE equipment as desired.

1.3 LUXMATE daylight-dependent control of the artificial light

The LUXMATE daylight-dependent control function controls the artificial light in the room depending on the natural daylight.

The natural light is detected via a light sensor in daylight control system which operate locally. The light sensor is connected to the daylight control unit. The light sensor is aligned to a window in order to measure the incidental daylight. Each group of luminaries is controlled separately by a programmable characteristic curve.

In centrally automated LUXMATE installations the sky state is determined by means of a daylight measuring head LM-TLM which is mounted on the roof of the building. The data are made available to the central LUXMATE Room Automation computer (LRA) in order to calculate the setpoint values for controlling the artificial light. The respective setpoint value is calculated for each luminary on the basis of the control characteristics and the current daylight data. This is passed on to the corresponding luminaries via the bus system. In addition the artificial light and the blinds are controlled in relation to each other by the central automation function, whereby the daylight is taken into account as an influencing variable. Manual intervention by the room user is possible at all times.

1.4 LUXMATE daylight-dependent control of the blinds

LUXMATE offers the corresponding control system, depending on the purpose of the curtain system (for example blinds). For example, curtains are controlled for anti-glare or climate protection purposes or also for shading purposes.

Curtains at facades can be divided by the central automation into so-called direction groups by means of the LUXMATE Room Automation processor (LRA). The curtains are controlled in accordance with their tasks depending on the geographic alignment of the facade and the outside conditions (daylight, daytime or season). The objects projecting from the facade and having an influence (buildings and mountains) are taken into consideration in the control function. Intervention by the room user is possible at all times.

1.5 LUXMATE time control

The LUXMATE time control monitors and controls the **change of scenes**, time, date and the building-wide switching times (e.g. for the illumination). You set the time at which a scene change is to occur. For example, this could be the dimming out of the illumination at the end of the work day or the lowering of the glare protection at night for visibility and climate protection reasons.

Only one LM-ZSM time control unit may be connected in a LUXMATE installation at any time. If a LUXMATE Room Automation processor LRA is used, it replaces the LM-ZSM time control unit.

You can link each LUXMATE scene to an automatic LUXMATE time control.

1.6 LUXMATE sequence control

The LUXMATE sequence control controls the scene sequences. A scene sequence can be called up with the initial scene or started automatically at a specified time. An automatic stop of the scene sequence at a specified time or after the last run can also be set.

The sequence of scenes (steps) which are called up to follow one another can be set arbitrarily. The fade speeds and delay (time delta) between the individual scenes which are called up can be set. The delay lies between 0.1 seconds and 99 minutes 59 seconds. Random delays can also be set.

For example, sequences can be devised for a show window which direct attention to a certain product via the effective use of light. Another example would be barely detectable scene sequences in an office room which increase the motivation of the people in the room. The classic staircase light control can also be attained with LUXMATE sequence control.

Several LM-ZSQ LUXMATE sequence controls can be used in a LUXMATE installation. When programming sequences, however, ensure that only one sequence control unit is connected to the LUXMATE bus.

1.7 LUXMATE dynamic control of the artificial light

Rooms can be arranged to be similar to natural conditions by dynamizing the artificial light. The light effects perceived are decisive for the motivating effects of lighting. It is therefore promising, for example, to dynamize peripheral illumination which has an influence on the overall lighting effect of a room.

An atmosphere which increases sales can be achieved by dynamizing artificial light. The sales rooms thus achieve an atmosphere with a stimulating effect which increases sales.

The limited capacity of humans means that individual exhibits or details do not enjoy the desired attention in surroundings with many accentuations or that no details leave a sufficiently strong impression due to the excess of details. If, on the other hand, the accentuations change, the desired exhibits or details alternate in the forefront and are thus rapidly taken notice off.

Continuous dynamization of the shop illumination lets the sales rooms appear differently and unpredictably in a different light. The shop is thus redecorated by light.

1.8 LUXMATE addressing

It is advantageous to prepare a room-addressing diagram before operating the LUXMATE units. The room-addressing diagram specifies all the LUXMATE outputs in a room. Each room possesses a number of LUXMATE units with specified properties. The physical locations of the inputs and outputs should be entered in this room-addressing diagram.

During addressing, all LUXMATE outputs indicate whether they are being addressed. For example, the relevant addressed luminary would go to a 100 % dim setting. The blind control closes or opens the blinds. The screen control travels the screen up or down. This allows easy visual inspection of the allocation of new and existing assigned LUXMATE addresses.

LED's serve as status information at LUXMATE units which are used in control cabinets. This facilitates addressing at daylight control systems with unused addressable LUXMATE outputs or other LUXMATE units which cannot be addressed recognizably directly.

Each LUXMATE output in a room is addressed with the room address (**R**), group address (**G**) and bus address (**B**). This information is set in the respective LUXMATE output. This information can be changed or adapted later.

1.9 LUXMATE type

A LUXMATE unit can contain several LUXMATE outputs. A LUXMATE output can contain several LUXMATE types. You set, for example, two LUXMATE types in order to control the blinds: You set the LUXMATE type **Blind position** (closing height) and the LUXMATE type **Slat angle** (inclination).

2 LUXMATE BMS interface

This chapter informs you about the ...

- Advantages and functions

2.1 Advantages and functions

The external system or the programmer of the external system can modify the ambient conditions which the LUXMATE installation calls up rapidly and comfortably.

The external system or the programmer of the external system can for example ...

- Switch the light on and off
- Travel the blinds
- Set the room environment
- Call up scenes
- Set scenes
- Set individual LUXMATE outputs or groups temporarily
- Interrogate adjustment values and system states

The advantages for the programmer are:

- An ASCII clear text protocol is used.
- The ASCII characters are used for representation.
- The messages can be read easily due to a clear structure.
- The commands have a "speaking" designation.
- Complex processes are mapped to individual commands.

The advantages for the planner are:

- The LUXMATE BMS interface is an open protocol.
- The LUXMATE BMS interface is available either as an RS-232 interface or a TCP/IP interface (depending on the respective BMS device).
- Coupling can be carried out in various installation levels (device, automation or management level). It may be possible to transfer the coupling from one installation level to another installation level (e.g. from LM-SI03 to LM-SRV) without modifying the program at the external system.

3 Connection

This describing chapter informs you about the ...

- RS-232 and TCP/IP in overview
- Overview of LUXMATE outputs and PCs and their interfaces
- RS-232
- TCP/IP
- Reliability with regard to failure
- Capacity

3.1 RS-232 and TCP/IP in overview

The external system is connected to LM-SI03, LM-TLR, LRA or LM-SRV by means of the LUXMATE BMS interface via a serial **RS-232** interface.

In addition a **TCP/IP** connection can be established by means of the LUXMATE BMS interface which is implemented in the LM-SRV and LRA. A LUXMATE command is then sent via a Windows Socket connection to the port 6850. The LUXMATE server sends a response via this connection. The IP address of the LUXMATE server has to be known.

3.2 Overview of LUXMATE outputs and PCs and their interfaces

LM-SI03

The LM-SI03 interface device allows external control and operating devices access to a LUXMATE installation.

External systems are connected to the LM-SI03 via a serial RS-232 interface (SUB D, 9-pin, female). An uncrossed serial interface cable (called straight serial cable or also serial extension) has to be used as the connection. The maximum length amounts to 2 meters. The connected field bus can be accessed via the LM-SI03.

The settings are saved in the EEPROM. An RS-232 interface is available at the LM-SI03.

LM-TLR

The daylight processor LM-TLR is used to automate various services centrally for the entire building (e.g. daylight-dependent and time-specific control of the artificial light and anti-glare protection, climate and emergency light).

External systems are connected via a serial RS-232 interface (SUB D, 9-pin, male or SUB D, 25-pin, male). A crossed serial interface cable (zero modem cable) is used as the connection. The maximum length amounts to 2 meters.

The number of free RS-232 interfaces depends on the hardware. The connected field bus can be accessed via the LM-TLR.

The settings are stored in the files "NameList.tab" and "LMTLR.CFG".

LM-TLRL

The daylight processor LM-TLRT is used to automate various services centrally for the entire building (e.g. daylight-dependent and time-specific control of the artificial light and anti-glare protection, air conditioners and emergency lighting). Several LM-TLRLs can be interconnected to a LUXMATE LAN by means of the network board.

External systems are connected via a serial RS-232 interface (SUB D, 9-pin, male or SUB D, 25-pin, male). A crossed serial interface cable (zero modem cable) is used as the connection. The maximum length amounts to 2 meters.

In installations with a LUXMATE server (LM-SRV) you have to decide whether to connect via the LM-SRV or the LM-TLRL. The decision depends as a rule on the extent of the area on which the external system acts.

The number of free RS-232 interfaces depends on the hardware. The connected field bus can be accessed via the LM-TLR.

The settings are stored in the files "NameList.tab" and "LMTLR.CFG".

LRA-1500

The LUXMATE Room Automation processor LRA-1500 is used to automate services at the room level for the entire building (e.g. daylight tracking of the artificial light, controlling of the room temperature, curtains as protection against climatic conditions and glaring). An internal ISDN modem is installed for remote maintenance.

External systems are connected via a serial RS-232 interface (SUB D, 9-pin, male or SUB D, 25-pin, male). A crossed serial interface cable (zero modem cable) is used as the connection. The maximum length amounts to 2 meters.

A further connection of the LUXMATE installation to an external system is possible via the TCP/IP connection of the LRA 1500. A Windows Socket connection has to be established to this purpose.

In installations with a LUXMATE server (LM-SRV) you have to decide whether to connect via the LM-SRV or the LRA-1500. The decision depends as a rule on the extent of the area on which the external system acts.

The number of free RS-232 interfaces depends on the hardware and on the number of connected field busses. The connected field busses can be accessed via the LRA.

The number of TCP/IP connections is not limited.

The settings are saved in the file "LMBMSSP.CFG".

LRA-1500A

The LUXMATE Room Automation processor LRA-1500A is used to automate services at the room level for the entire building (e.g. daylight tracking of the artificial light, controlling of the room temperature, curtains as protection against climatic conditions and glaring). An internal analog modem is installed for remote maintenance.

The external system is connected via a serial RS-232 interface (SUB D, 9-pin, male or SUB D, 25-pin, male). A crossed serial interface cable (zero modem cable) is used as the connection. The maximum length amounts to 2 meters.

A further connection of the LUXMATE installation to an external system is possible via the TCP/IP connection of the LRA 1500A. A corresponding Windows Socket connection has to be established to this purpose.

In installations with a LUXMATE server (LM-SRV) you have to decide whether to connect via the LM-SRV or the LRA-1500A. The decision depends as a rule on the extent of the area on which the external system acts.

The number of free RS-232 interfaces depends on the hardware and on the number of connected field busses. The connected field busses can be accessed via the LRA.

The number of TCP/IP connections is not limited.

The settings are saved in the file "LMBMSSP.CFG".

Luxmate server

The LUXMATE server (LM-SRV) is used to make data available and to exchange data of a LUXMATE installation with the management level of a system. The server is connected via the LUXMATE-LAN to several LRA-1500(x)s or LM-TLRLs.

The external system is connected via a serial RS-232 interface (SUB D, 9-pin, male or SUB D, 25-pin, male). A crossed serial interface cable (zero modem cable) is used as the connection. The maximum length amounts to 2 meters.

A further connection of the LUXMATE installation to an external system is possible via the TCP/IP connection of the LM-SRV. A corresponding Windows Socket connection has to be established to this purpose.

The number of free RS-232 interfaces depends on the hardware. The complete LUXMATE installation can be accessed via the LM-SRV.

The number of TCP/IP connections is not limited.

The settings are saved in the file "LMBMSSP.CFG".

3.3 RS-232

The serial interface is used for data communication between two devices. The following standards define the interface:

- V.24 is a standard of CCITT (Comité Consultatif International Télégraphique et Téléphonique).
- RS-232-C is an American standard and corresponds to the ISO standard 2110 and the DIN standard 66020-1:1999-07.

The RS-232-C standard describes the electrical properties in addition to the functional sequence. V.24 only standardizes the functional sequence of an asynchronous bit-serial transfer and its pin assignment.

The asynchronous transfer of a character is started at any time, starting from a state of rest. The standard defines the MARK state (logical '1') of the sender output line as the state of rest. This state exists after switching on and is taken up after every transfer.

The receiver has to be warned by a suitable method before the first bit of a character may be output, since there would be no difference to the state of rest if the first bit has the value '1'. This information is contained in the starting bit: The sender emits SPACE (logical '0') for the duration of one bit. This clearly differs from the state of rest. This gives the receiver the opportunity to prepare its interrogation logic to the reading-in of the data bits.

The data bits (e.g. 7-bit ASCII characters) follow the start bit immediately preceded by the LSB (abbreviation for least significant bit = Bit 1).

After the last bit, the MSB (abbreviation for most significant bit = Bit 7), a parity bit for recognizing transfer faults can be attached.

There are two types of parity - even and odd parity. Even parity means that the number of transferred set bits ('1') including the parity bit is even. The sender therefore sets the parity bit if the number of set bits in the character is odd. The receiver examines the bit flow in accordance with the same rules and can thus determine when a transfer error has occurred. The end of the transfer of a character is indicated by a stop bit (MARK) which can last 1, 1.5 or 2 bit periods (therefore 1, 1.5 or 2 stop bits).

Connection of the external system to a LUXMATE device

You connect the external system to the LUXMATE installation by means of the LUXMATE BMS interface implemented in the LUXMATE device.

The following values are assumed for the transfer:

- Transfer rate: 9600 bauds
- Transfer format: 7 data bits, 1 parity bit (even), 1 stop bit

The interface assignment of the cable from the PC to the LUXMATE device is laid out in accordance with the following table.

The data are sent via the line called "transmit data". The data are received via the line called "receive data". In addition you require the line "signal ground". You therefore wire the cables RxD, TxD and GND (straight serial cable). 3 wires for RxD, TxD and GND are normally sufficient.

The SI03 provides the possibility of a hardware handshake. If this is used, the lines RTS and CTS are also to be connected straight through.

SUB D, male (LUXMATE device) 9-pin	Wire		SUB D, female (external device)		Required wiring
			9-pin	25-pin	
1	Data carrier detected	CD	1	8	No
2	Receive data	RxD	2	3	Yes
3	Transmit data	TxD	3	2	Yes
4	Data terminal ready	DTR	4	20	No
5	Signal ground	GND	5	7	Yes
6	Data set ready	DSR	6	6	No
7	Request to send	RTS	7	4	No
8	Clear to send	CTS	8	5	No
9	Ring indicator	RI	9	22	No

Connection of the external system to a LUXMATE PC

The following values are assumed for the transfer:

- Transfer rate: 9600 bauds
- Transfer format: 7 data bits, 1 parity bit (even), 1 stop bit

The interface assignment of the cable between the PCs is laid out in accordance with the following table.

The data are sent via the line called "transmit data". The data from the PC are received via the line called "receive data". In addition you require the line "signal ground". You thus wire the wires RxD, TxD and GND. You cross the lines called "transmit data" and "receive data". At both ends of the cable you jumper DSR with DTR and RTS with CTS (zero modem cable).

SUB D, male (LUXMATE device)				Wire		SUB D, female (external device)				Required wiring
9-pin	Jumper	25-pin	Jumper			9-pin	Jumper	25-pin	Jumper	
1		8		Data carrier detected	CD	1		8		No
2		3		Receive data	RxD	3		2		Yes
3		2		Transmit data	TxD	2		3		Yes
4	6	20	6	Data terminal ready	DTR	4	6	20	6	No
5		7		Signal ground	GND	5		7		Yes
6	4	6	20	Data set ready	DSR	6	4	6	20	No
7	8	4	5	Request to send	RTS	7	8	4	5	No
8	7	5	4	Clear to send	CTS	8	7	5	4	No
9		22		Ring indicator	RI	9		22		No

3.4 TCP/IP

TCP/IP is the abbreviation for Transmission Control Protocol / Internet Protocol.

TCP/IP is a protocol developed by the American Defense Department for communication between computers. The protocol is integrated in the UNIX operating system and is a de-facto standard for data transfer via networks including the Internet.

TCP is the protocol within TCP/IP which control the separation of data into packages which are sent per IP. The protocol controls the receive-end composition and testing of the complete messages from the packages received via IP.

IP is the protocol within the TCP/IP which divides the data into packages and transfers these packages to the target network and the station. The packages are afterwards converted back into the original format in the target network.

External devices could be connected via a network connection with the LUXMATE BMS interface of the LRA or SRV. A twisted pair (10base-T or 100base-T) is usually used. The external devices are integrated into the network, if a network exists. If a network does not exist, the connection can be established by means of a cross-patch cable. In the latter case, take the distances into consideration.

The external devices and the LUXMATE BMS interface of the LRA or SRV communicate via TCP/IP and use a Windows Socket connection.

The following information is required for the connection:

- **TCP/IP address:** The set TCP/IP address of the supplied PC (LRA and SRV) usually lies in the IP range 10.10.10.x . In order to obtain exact information on the set TCP/IP address please contact the corresponding LUXMATE contact person. This person can provide exact information on the installation situation.
- **Port number:** The Windows Socket connection uses the port 6850.
- **Form of the data exchange:** The data strings defined in the protocol are sent via the Windows Socket connection (start with <STX>, <Data>, end with <ETX>). Please observe the communication rules (refer to 4.3, ACK/NAK). Please note that each data package is sent individually (application of the "Flush" method to the opened Windows Socket connection after every data string).

3.5 Reliability with regard to failure

The LUXMATE BMS interface can temporarily not be available for various reasons (maintenance work, device defect or other causes) . The following states must therefore be handled correspondingly when conceiving the external system.

Standstill of the LUXMATE BMS interface:

This case has to be handled correspondingly in order not to impair operation of the external system even during a temporary standstill of the LUXMATE BMS interface. For example, an error message or a warning can be issued to the user when a standstill in the LUXMATE BMS interface is recognized.

Restoring operation of the LUXMATE BMS interface:

If the external system recognizes that the LUXMATE BMS interface has returned to operation, it has to initiate corresponding measures (e.g. re-initialization of the BMS data). In this case it is particularly important that

- Automatic return messages (AUTO<a>!, AUTOM<a>! and AUTOW<a>!) be activated repeatedly.
- Name objects are created repeatedly.
- Default values are set repeatedly (TLR<t>!!, R<r>!!, G<g>!!, B!!, T<y>!!, SP_<p><w>!, etc.).

The settings for automatic return messages, name objects and default values are stored in the file LMBUSSP.CFG at a LRA/SRV, in the files LMTLR.CFG and NAMELIST.TAB at the TLR. The SI03 stores the data in the EEPROM. This is a safety measure which is particularly relevant for the exchange of LUXMATE devices with LUXMATE BMS interfaces.

3.6 Capacity

The amount of data increases as the number of LUXMATE addresses to be interrogated increases. A large amount of data is particularly critical at a small data throughput (for example, when connecting via the serial interface). In case of large data quantities the TCP/IP connection should be used. Greater amounts of data require higher computer capacities in the external system and the respective LRA or SRV which contains the LUXMATE BMS interface.

In order to ensure optimal and error-free operation, the number of items of information to be interrogated should be kept as minimal as possible. The intervals between the interrogations should be as large as possible. In this context it is advisable to use event-specific interrogations (with AUTO1!, AUTOM1!, AUTOW1!).

The data traffic can be kept minimal if the external device also stores the states of the installation (event-specific interrogation by means of the AUTO commands). For security reasons we recommend updating the states periodically by means of "?".

These considerations have to be included in the planning phase. Increased amounts of data are to be expected in particular at the following interrogations:

Wildcards:

The more LUXMATE addresses are assigned to the area interrogated with wildcards, the greater the amount of data to be received.

?, AUTO<a>!, AUTOM<a>! and AUTOW<a>!:

In particular LUXMATE responses which are obtained at regular intervals from the LUXMATE BMS interface cause correspondingly large data quantities as the number of interrogations increase.

4 Protocol

This describing chapter informs you about the ...

- Message structure
- Structure of a command string
- Communication rules
- Default values for the LUXMATE address

4.1 Message structure

The external system sends a message to the LUXMATE BMS interface. The LUXMATE BMS interface confirms the receipt of the message. It then interprets the message and sends an instruction to the LUXMATE installation. The LUXMATE installation responds to specific instructions. The LUXMATE BMS interface interprets the responses and sends them to the external system.

Message to the LUXMATE installation

The message to the LUXMATE installation consists of:

- Non-printable control character <STX> (ASCII 02h)
- <Address>
- <Type>
- <Command>
- Non-printable control character <ETX> (ASCII 03h)

The complete message is: <STX><Address><Type><Command><ETX>

The LUXMATE BMS interface sends the non-printable control character <ACK> (ASCII 06h) as a confirmation of receipt within 0.3 seconds. If the LUXMATE BMS interface sends the non-printable character <NAK> (ASCII 15h) or has not sent a message after three seconds, an error has occurred.

Message from the LUXMATE installation

If the adjusting values in a room, in a group or of a device are interrogated by means of the LUXMATE command, the LUXMATE BMS interface sends a message back.

The message from the LUXMATE installation consists of:

- Non-printable control character <STX> (ASCII 02h)
- <Address>
- <Type>
- <Response>
- Non-printable control character <ETX> (ASCII 03h)

The complete message is: <STX><Address><Type><Response><ETX>

You always send the complete message in order to communicate with the LUXMATE installation via the LUXMATE BMS interface.

A special form of response is the error message NAK<n>!.

4.2 Structure of a command string

The command string consists of:

- <Address>
- <Type>
- <Command>

The complete command string is: <Address><Type><Command>

The combination of the <Address>, the <Type> and the <Response> is also called a command string.

In this case the complete command string is: <Address><Type><Response>

<Address>

The <Address> designates the area of your LUXMATE installation at which the LUXMATE command is aimed or from which a <response> is sent. The <Address> consists of a sequence of key characters and the corresponding numbers (#). The address section TLR# is only used if more than field bus can be addressed.

Action objective	<Address>
Address all the LUXMATE rooms, all the LUXMATE groups and all the LUXMATE outputs of a specific LUXMATE field bus.	[TLR#]
Address all the LUXMATE groups and all the LUXMATE outputs in a specific LUXMATE room.	[TLR#]R#
Address a specific LUXMATE group in a LUXMATE room.	[TLR#]R#G#
Address a specific LUXMATE output in a LUXMATE room.	[TLR#]R#B#
Address all the LUXMATE rooms, all the LUXMATE groups and all the LUXMATE outputs which are assigned to a LUXMATE name object.	"Name"

All the LUXMATE outputs within a room have to have differing designations. Either only the key character B (device) or the key character G (group) can be used within an <Address>.

<Type>

A LUXMATE output can contain several LUXMATE types. For example, a LUXMATE output for controlling the blinds contains the LUXMATE type T3 (controlling the closing height) and the LUXMATE type T4 (controlling the inclination of the slats).

<Command>

The LUXMATE command is used to control or monitor the LUXMATE installation. The LUXMATE command consists of a sequence of key characters (e.g. AUTO) and the corresponding values (e.g. <a>). There is usually a question mark at the end when values are interrogated. The following examples illustrate the structure.

LUXMATE command	Meaning
DP<d>	Increase the adjusting value.
AUTO<a>!	Have the <Response> sent automatically with LUXMATE scene and errors.
ENA?	Monitor the current power consumption.

<Response>

The <Response> provides information on the current adjusting values and the errors which have occurred. It consists of a sequence of key characters and the corresponding values. The following examples illustrate the structure.

<Response>	Meaning
S3W255E00000	The LUXMATE scene 3 and the adjusting value 255 are the current values in the interrogated area. There are no areas.
TIME12305501062001	The current time is 12:30:55 and the date is 1st June 2001.

LUXMATE name objects

In order to address LUXMATE rooms, LUXMATE groups or individual LUXMATE outputs, use the LUXMATE addresses in the form [TLR#]R#, [TLR#]R#G# or [TLR#]R#B#. You can alternatively also send commands to several different LUXMATE addresses. To this purpose you create a LUXMATE name object, assign various LUXMATE addresses to this LUXMATE name object and send the LUXMATE command to this LUXMATE name object.

You can ...

- Create a name object by using the LUXMATE command NEW_.
- Add a LUXMATE address to the name object by using the LUXMATE command ADD_<a>.
- Delete a LUXMATE address from the name object by using the LUXMATE command DEL_<a>.
- Delete the complete name object by using the LUXMATE command DEL_.
- Display a list of the LUXMATE addresses of a name object by using the LUXMATE command GET_.
- Rename a name object by using the LUXMATE command REN_<a>.

The respective name of the name object is always entered in quotation marks (ASCII 34 = "). The text within the quotation marks is case-sensitive. A maximum of 64 characters per name is allowed. The name objects are saved by the LUXMATE BMS interface and are also available after the LUXMATE BMS interface has been restarted.

The names cannot be selected freely in the implementation of Level 2. The names "C1" to "C8" are fixed. Only these can be used. Wildcards are not available for names.

You can interrogate data from the LUXMATE installation by using various commands. The response is a sum across all the LUXMATE addresses of the name object. If, for example, the LUXMATE scene is the same for all the LUXMATE addresses of the name object, this LUXMATE scene is specified in the response. Otherwise the LUXMATE BMS interface sends the character x instead of the number for the LUXMATE scene.

The error messages are not output for the individual LUXMATE addresses. Only the error message NAK10! is sent if no LUXMATE output has been found via the name list at an interrogation. In addition the error message NAK11! is sent if the name of the name object does not exist.

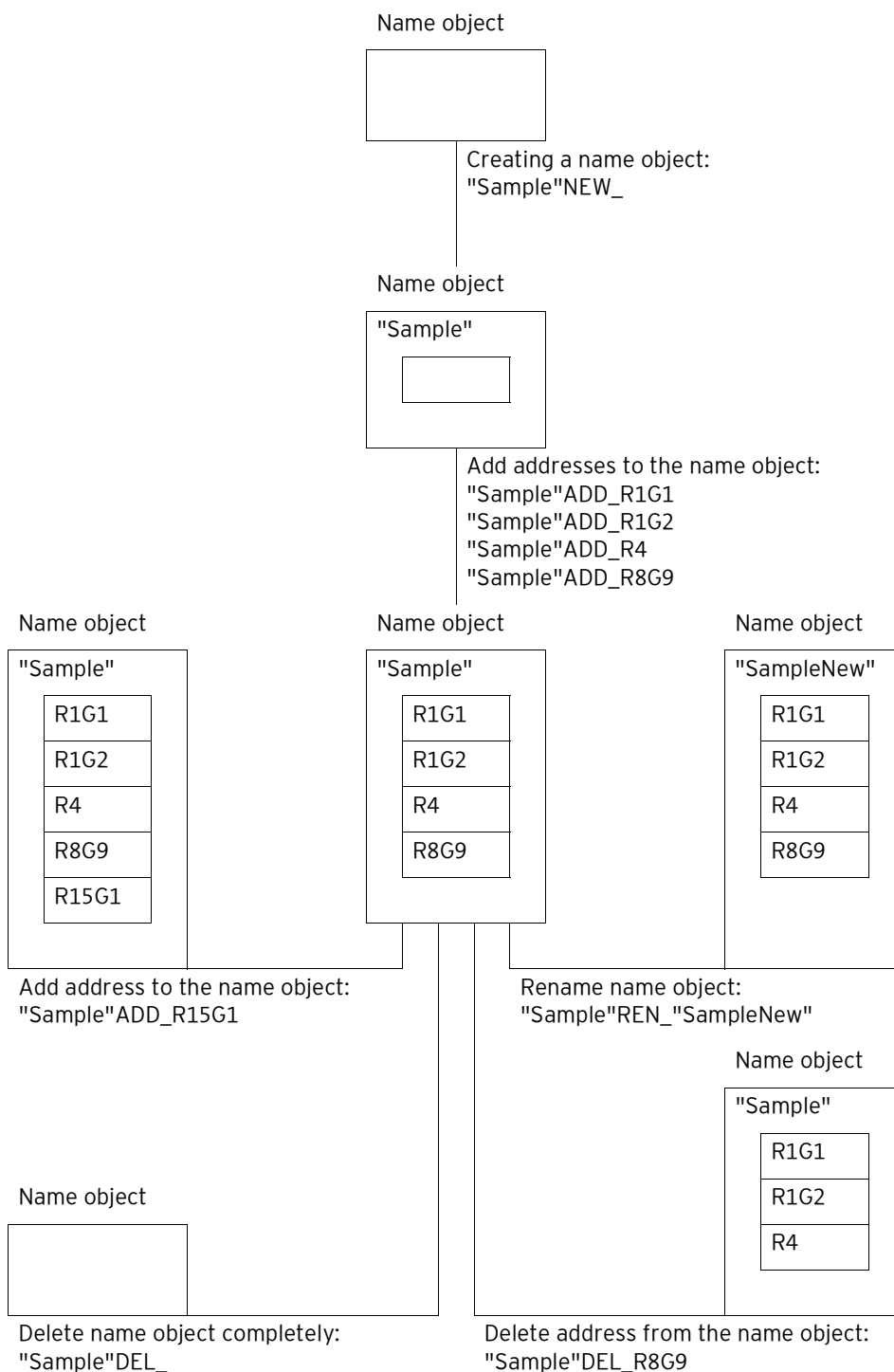


Figure: Addressing with LUXMATE names

4.3 Communication rules

The protocol consists only of ASCII characters: <STX>, <ETX>, <ACK> and <NAK> are the only non-readable ASCII characters (control characters) which are used. Only upper-case characters, numbers, +, -, ?, " (ASCII 34h) and ! may be used - except in the case of names.

The external system can interrogate data. If the LUXMATE BMS interface then sends an <NAK> (ASCII 15h) or does not send an <ACK> (ASCII 06h) for longer than 3 seconds, an error has occurred. Interrogation of the data has to be repeated by the external system.

If the external system receives a response from the LUXMATE BMS interface, the external system has to acknowledge with <ACK> (ASCII 06h) within 3 seconds. Only then does the LUXMATE BMS interface send new data if several responses are to be sent (e.g. response with wildcards). If the external system does not send an <ACK> (ASCII 06h) within 3 seconds, the LUXMATE BMS interface rejects all the open responses.

If the external system sends a message before the LUXMATE BMS interface could send all the responses to the external system, the responses of the LUXMATE BMS interface which are still open are rejected and are no longer sent.

The maximum response time of the LUXMATE BMS interface amounts to 3 seconds. The external system receives the response <ACK> (ASCII 06h) from the LUXMATE BMS interface within 0.3 seconds.

In addition to the control command <NAK> (ASCII 15h) there is a response to an unknown LUXMATE command or a response to a LUXMATE command with incorrect parameters.

4.4 Default values for the LUXMATE address

You can simplify the LUXMATE address in the message. To this purpose you specify LUXMATE default values for individual address sections. When sending the commands you specify the address section in the respective LUXMATE address which differs from the LUXMATE default values. You also specify the address sections which follow this address section.

For example, you specify the LUXMATE default values:

- TLR# = TLR3
- R# = R5
- G# = G2
- R# = B3
- T# = T2

You wish to send the message to the <Address> = TLR3R5G7B5T2.

You only need to send the <Address> = G7B5T2.

The address sections TLR3R5 are supplemented automatically.

If you do not specify a LUXMATE address in the message, the default room number is supplemented.

Works settings:

- TLR# = TLR1
- R# = R1
- G# = G0
- R# = B0
- T# = T1

Default values are set by using the following commands:

- TLR<t>!!
Sets the default field bus number.
- R<r>!!
Sets the default room number.
- G<g>!!
Sets the default group number.
- B!!
Sets the default bus number.
- T<y>!!
Sets the default type.
- TLR<t>R<r>G<g>BT<y>!!
Sets all the default values.

4.5 Wildcards

The following wildcards can be used:

TLR0	Wildcard for the field bus number
R0	Wildcard for the room number
G0	Wildcard for the group number
B0	Wildcard for the address number
T1	Wildcard for the type

General information on wildcards:

The more LUXMATE addresses are assigned to the area interrogated with wildcards, the greater the amount of data to be received. A large amount of data is particularly critical at a small data throughput (when connecting via the serial interface). In case of large data quantities the TCP/IP connection should be used. Greater amounts of data require higher computer capacities in the external system and the LUXMATE device or PC with LUXMATE BMS interface. These considerations have to be included in the planning phase.

5 Commands and responses

This describing chapter informs you about the ...

- Alphabetical overview
- Default
- LM-SI03
- TLR / LRA / SRV

5.1 Alphabetical overview

The following table contains all the LUXMATE commands and LUXMATE responses in alphabetical order.

You find an action objective for each LUXMATE command and the corresponding LUXMATE response. The character C stands for LUXMATE command and the character R for LUXMATE response.

You see at a glance whether the LUXMATE command applies for all the LUXMATE devices or PCs with a LUXMATE BMS interface (default). Some LUXMATE commands or responses are additionally valid for the LM-SI03 or the LUXMATE PCs.

The LUXMATE commands which are not available for the LM-TLR are identified by an asterisk (*).

LUXMATE command or LUXMATE response / Action objective / C (= LUXMATE command) or R (= LUXMATE response) / page	Default		
		LM-SI03	
		TLR	LRA
A<a><hh><mm> / Set the room-specific switching-off time / C / page 81			
ADD_<a> / Add an address to the name object / C / page 27			
AGZ<hh><mm>,<hh><mm>,<aa> / Set the global switching-off time / C / page 82			
ANZcccccc / Send the input device display / R / page 64			
AUTO<a>! / Poll a scene automatically / C / page 28			
AUTOM<a>! / Poll a manual intervention automatically / C / page 83			*
AUTOW<a>! / Poll an adjustment value automatically / C / page 84			*
B! / Set a default value for the LUXMATE output / C / page 29			
BCSTART! / Start the blind automation / C / page 85			
BCSTOP! / Stop the blind automation / C / page 85			

LUXMATE command or LUXMATE response / Action objective / C (= LUXMATE command) or R (= LUXMATE response) / page	Default		
		LM-SI03	TLR LRA SRV
BT<t> / Poll the burning duration / R / page 86			
D<d>E<e> / Poll a sensor / R / page 30			
D<dd><mm><yyyy> / Set the date / C / page 87			
DEL / Delete an address block without wildcards / C / page 65			
DEL ALL / Delete an address block with wildcards / C / page 66			
DEL_ / Delete a LUXMATE name object completely / C / page 88			
DEL_<a> / Delete an address in the LUXMATE name object / C / page 31			
DM<s> / Start the dimming process (minus) / C / page 32			
DP<s> / Start the dimming process (plus) / C / page 33			
DS / Stop the dimming process / C / page 34			
D-<w> / Reduce the adjustment value relatively / C / page 35			
D+<w> / Increase the adjustment value relatively / C / page 36			
D%<-p> / Reduce the adjustment value by a percentage / C / page 89			
D%<+p> / Increase the adjustment value by a percentage / C / page 90			
E<e><hh><mm> / Set the room-specific switching-on time / C / page 91			
E<e>M<m>L<l> / Poll the EEPROM position / R / page 67			
E<e>M<m>L<l>! / Set the EEPROM position / C / page 68			
E<e>R? / Poll the EEPROM position / C / page 69			
EGZ<hh><mm> / Set the global switching-on time / C / page 92			
ENA? / Poll the power consumption / C / page 93			
ENA<a> / Poll the power consumption / R / page 94			
ENC? / Poll the energy consumption / C / page 95			
ENC<c> / Poll the energy consumption / R / page 96			
FADE / Call up the LUXMATE Scene "Off" gradually / C / page 37			
FADE!<f> / Set the fading rate / C / page 38			
GET_ / Poll addresses of the name object / C / page 39			
G<g>! / Set the default value for the LUXMATE group / C / page 40			
H? / Poll the burning duration percentage / C / page 97			
H<h> / Poll the burning duration percentage / R / page 98			
HR / Reset the burning duration management / C / page 99			

LUXMATE command or LUXMATE response / Action objective / C (= LUXMATE command) or R (= LUXMATE response) / page	Default		
	LM-SI03		
		TLR	LRA SRV
ITEM_<a> / Poll the addresses of the name object / R / page 41			
I? / Poll a sensor / C / page 42			
MAN / Poll a manual intervention automatically / R / page 99			*
MANSTART / Poll a manual intervention / R / page 100			*
NAK<n>! / Respond to faulty commands / R / page 43			
NEW_ / Create a LUXMATE name object / C / page 44			
OFF / Call up the LUXMATE Scene "Off" rapidly / C / page 45			
PARGET<p>? / Poll the parameters of the LM-SI03 / C / page 70			
PARSEND<p>W<w> / Poll the parameters of the SM-SI03 / R / page 71			
PARSET<p>W<w>! / Set the parameters of the LM-SI03 / C / page 72			
PRG / Store a LUXMATE scene / C / page 73			
PROGS<s> / Store a LUXMATE scene / C / page 46			
READY / Start the LM-SI03 / R / page 74			
REN_<n> / Rename the LUXMATE name object / C / page 102			
RESET / Set the works settings / C / page 47			
R<r>! / Set the default value for the LUXMATE room / C / page 48			
SOL? / Poll the position of the sun / C / page 103			
SOLA<a>G<g>X<x> / Poll the position of the sun / R / page 104			
SP_<p>? / Poll the BMS settings / C / page 49			
SP_<p><w> / Poll the BMS settings / R / page 50			
SP_<p><w>! / Set the BMS settings / C / page 51			
SR / Call up the LUXMATE scene again / C / page 75			
S<s>! / Call up the LUXMATE scene / C / page 52			
S<s>F<f>! / Call up a scene with a fading rate / C / page 53			
S<s>W<w>E<f> / Poll the LUXMATE output individually / R / page 54			
S<s>W<w>E<e><f><g><h><i> / Poll the area (sum) / R / page 55			
ST / Change a LUXMATE scene / C / page 76			
T? / Poll the burning duration / C / page 105			
T<hh><mm><ss> / Set the time / C / page 56			
TIME? / Poll the data and time / C / page 57			
TIME<hh><mm><ss><dd><mm><yyyy> / Poll the date and time / R / page 106			

LUXMATE command or LUXMATE response / Action objective / C (= LUXMATE command) or R (= LUXMATE response) / page	Default		
		LM-SI03	TLR LRA SRV
TLA<a> / Switch the daylight automation / C / page 77			
TLM? / Poll the daylight measuring head / C / page 107			
TLMW<w>E<f> / Poll the daylight measuring head / R / page 108			
TLR<t>!! / Set the default value for the field bus / C / page 58			
TLR<t>R<r>G<g>BT<y>!! / Set all the default values / C / page 59			
T<y>!! / Set the default value for the LUXMATE type / C / page 60			
UHR? / Poll the time / C / page 78			
UHR<hh><mm> / Poll the time / R / page 79			
VERSION? / Poll the version of the BMS interface / C / page 61			
V<v.vv>L<l>BMS<text> / Poll the version / R / page 61			
WDR / Prevent the watchdog reset / C / page 80			
W<w>! / Set the adjustment value / C / page 62			
? / Poll the scene, adjustment value and errors / C / page 63			

5.2 Default

These LUXMATE commands and LUXMATE responses are supported by all the LUXMATE devices and LUXMATE PCs.

ADD_<a> / Add an address to the name object / C

Names are used to combine areas of a building. This allows you to address a collection of LUXMATE addresses ([TLR#]R# or [TLR#]R#G# or [TLR#]R#B#) by means of a name. You use, for example, names which reflect the real building structure. You can use all the ASCII characters for the names (except for control characters and exclamation mark = 22h). The names are set in quotation marks. When you send a LUXMATE command to a combined area, specify the name in the LUXMATE address ("Name"). In case of queries the LUXMATE BMS interface sends a single response for a combined area.

LM-SI03: Here you use the fixed names "C1", "C2", "C3", "C4", "C5", "C6", "C7", "C8".

LM-TLR: Any names are possible here. They are stored in the file "NAMELIST.TAB".

LRA: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

LM-SRV: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

This LUXMATE command is used to add a LUXMATE address to the combined area.

Syntax: <Name><Command> = <Name>ADD_<a>

Addressing type: "Name"

LUXMATE type: --

Parameters: <a> = [TLR#]R# or [TLR#]R#G# or [TLR#]R#B#

Reaction: --

Example: >>> "Corridor"ADD_R1G1 (the address Room 1 Group 1 is inserted into "Corridor".)

Also refer to:

DEL_ / Delete a LUXMATE name object completely / C / page 88

DEL_<a> / Delete an address in the LUXMATE name object / C / page 31

GET_ / Poll addresses of the name object / C / page 39

ITEM_<a> / Poll the addresses of the name object / R / page 41

NEW_ / Create a LUXMATE name object / C / page 44

REN_<n> / Rename the LUXMATE name object / C / page 102

Error codes: NAK11!

BMS level: 2

AUTO<a>! / Poll a scene automatically / C

This LUXMATE command is used to have a response with the current scene, the current adjustment value and errors occurring sent **automatically**. It is sent as soon as the LUXMATE scene changes or after a defined period.

New as from BMS Version 2.0 :

Immediately after the AUTO command has been sent, a first response with the current state is sent.

The LUXMATE BMS interface stores and manages all the activated automatic monitoring functions. The activated automatic monitoring functions also remain during a restart.

Syntax: <Address><Type><Command> = <Address><Type>AUTO<a>!

Addressing type: [TLR#]R# or [TLR#]R#G# or "Name"

LUXMATE type: T1

Parameters:

<a> = Function or number of seconds
 1 = Send the command when the scene changes
 0 = Switch off the function
 2 to 3600 = A LUXMATE command with the current LUXMATE scene is sent every x seconds and when a change occurs.

Reaction: <Address><Type>S<s>W<w>E<e><f><g><h><i>

A response is sent for each LUXMATE type in the addressed area.

Example:

```
>>> R1G2AUTO1800!
Room 1 Group 2 sends a response when a change occurs or at least every half an hour.
<<< R1G2T2S3WxE0100
<<< R1G2T3S3W255E0000
<<< R1G2T11S3W0.0E0000
Group 2 in Room 1 contains the LUXMATE outputs of Types 2, 3 and 11.
```

Also refer to:

AUTOM<a>! / Poll a manual intervention automatically / C / page 83
 AUTOW<a>! / Poll an adjustment value automatically / C / page 84
 MAN / Poll a manual intervention automatically / R / page 99
 MANSTART / Poll a manual intervention / R / page 100
 S<s>W<w>E<f> / Poll the LUXMATE output individually / R / page 54
 S<s>W<w>E<e><f><g><h><i> / Poll the area (sum) / R / page 55
 ? / Poll the scene, adjustment value and errors / C / page 63

Error codes: NAK1!, NAK2!, NAK5!, NAK6!

BMS level: 2

B!! / Set a default value for the LUXMATE output / C

The LUXMATE BMS interface automatically supplements the missing parts of the <Address> with LUXMATE default values. If, for example, you wish to address a LUXMATE output (B#), specify only the LUXMATE output in the <Address> (e.g. B5). The LUXMATE BMS interface automatically supplements the superior areas (e.g. TLR1R2) with LUXMATE default values. These LUXMATE default values are set beforehand.

LI!! is also allowed at SI03 in order to achieve compatibility to the SI02.

Syntax: <Command> = B!!

Addressing type: --

LUXMATE type: --

Parameters: = 0 to 99 (bus number)

Reaction: --

Example:

>>> B7!!

The default bus number is set to 7.

Also refer to:

G<g>!! / Set the default value for the LUXMATE group / C / page 40

R<r>!! / Set the default value for the LUXMATE room / C / page 48

TLR<t>!! / Set the default value for the field bus / C / page 58

TLR<t>R<r>G<g>BT<y>!! / Set all the default values / C / page 59

T<y>!! / Set the default value for the LUXMATE type / C / page 60

Error codes: NAK6!

BMS level: 2

D<d>E<e> / Poll a sensor / R

This is the response to the LUXMATE command I?. This LUXMATE command I? polls a sensor value.

Syntax: <Address><Type><Response> = <Address><Type>D<d>E<e>

Addressing type: [TLR#]R#I#

LUXMATE type: All types, wildcard (T# = T1) cannot be used here.

Parameters:

<d> = Different, depending on the LUXMATE type (sensor value), refer to the type table

<e> = 0 to 2 error code

LUXMATE command: <Address><Type>I?

Example:

>>> R7B142T2I?

<<< R7I142T2D255E0

Interior sensor (light, T2) signals a value of 255 without errors.

The bus address is 24 (24 + 128 = 142).

>>> R5B6T35I?

<<< R5I6T35D25.32E0

The temperature sensor of the LUXMATE air-conditioner signals a room temperature of 25.32 °C without errors. The bus address is 6.

Also refer to:

I? / Poll a sensor / C / page 42

Error codes: --

BMS level: 2

DEL_<a> / Delete an address in the LUXMATE name object / C

Names are used to combine areas of a building. This allows you to address a collection of LUXMATE addresses ([TLR#]R# or [TLR#]R#G# or [TLR#]R#B#) by means of a name. You use, for example, names which reflect the real building structure. You can use all the ASCII characters for the names (except for control characters and exclamation mark = 22h). The names are set in quotation marks. When you send a LUXMATE command to a combined area, specify the name in the LUXMATE address ("Name"). In case of queries the LUXMATE BMS interface sends a single response for a combined area.

LM-SI03: Here you use the fixed names "C1", "C2", "C3", "C4", "C5", "C6", "C7", "C8".

LM-TLR: Any names are possible here. They are stored in the file "NAMELIST.TAB".

LRA: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

LM-SRV: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

With this LUXMATE command you delete a LUXMATE address from the list of the name object.

Syntax: <Name><Command> = <Name>DEL_<a>

Addressing type: "Name"

LUXMATE type: --

Parameters: <a> = [TLR#]R# or [TLR#]R#G# or [TLR#]R#B#

Reaction: --

Example: >>> "Corridor"DEL_R1G1 (the address Room 1 Group 1 is deleted from "Corridor".)

Also refer to:

ADD_<a> / Add an address to the name object / C / page 27
 DEL_ / Delete a LUXMATE name object completely / C / page 88
 GET_ / Poll addresses of the name object / C / page 39
 ITEM_<a> / Poll the addresses of the name object / R / page 41
 NEW_ / Create a LUXMATE name object / C / page 44
 REN_<n> / Rename the LUXMATE name object / C / page 102

Error codes: NAK11!

BMS level: 2

DM<s> / Start the dimming process (minus) / C

This LUXMATE command starts the dimming process. The parameter <s> is used to specify the period for the dimming process. If you do not specify a value for the period, the dimming process lasts thirty seconds. Renewed sending of the same command before the dimming process has been terminated restarts the timer. If you enter a name in the <Address>, several dimming processes are started. These dimming processes can be started together or separately. If a LUXMATE scene is called up in the area specified by the LUXMATE address, or an absolute value is set or if dimming is being carried out, this dimming process is stopped, even if the LUXMATE scene is called up again.

This LUXMATE command starts the dimming process in the negative direction (luminaires darker, blinds upwards).

This dimming process can be stopped with DS. To do so, you specify exactly the same LUXMATE address with which you started the dimming process.

Syntax: <Address><Type><Command> = <Address><Type>DM<s>

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

LUXMATE type: All types, wildcard (T# = T1) cannot be used here.

Parameters: <s> = 0 to 255 (time in seconds)

Reaction: --

Example:

```
>>> R2G2T2DM45
```

Dims Room 2, Group 2, LUXMATE Type 2 darker for 45 seconds unless stopping or dimming is carried out with DS, the absolute value is set or a scene is called up.

Also refer to:

DP<s> / Start the dimming process (plus) / C / page 33

DS / Stop the dimming process / C / page 34

D-<w> / Reduce the adjustment value relatively / C / page 35

D+<w> / Increase the adjustment value relatively / C / page 36

D%-<p> / Reduce the adjustment value by a percentage / C / page 89

D%+<p> / Increase the adjustment value by a percentage / C / page 90

W<w>! / Set the adjustment value / C / page 62

Error codes: NAK1!, NAK2!, NAK3!, NAK4!, NAK5!, NAK6!

BMS level: 1

DP<s> / Start the dimming process (plus) / C

This LUXMATE command starts the dimming process. The parameter <s> is used to specify the period for the dimming process. If you do not specify a value for the period, the dimming process lasts thirty seconds. Renewed sending of the same command before the dimming process has been terminated restarts the timer. If you enter a name in the <Address>, several dimming processes are started. These dimming processes can be started together or separately. If a LUXMATE scene is called up in the area specified by the LUXMATE address, or an absolute value is set or if dimming is being carried out, this dimming process is stopped, even if the LUXMATE scene is called up again.

This LUXMATE command starts the dimming process in the positive direction (luminaires brighter, blinds downwards).

This dimming process can be stopped with DS. To do so, you specify exactly the same LUXMATE address with which you started the dimming process.

Syntax: <Address><Type><Command> = <Address><Type>DP<s>

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

LUXMATE type: All types, wildcard (T# = T1) cannot be used here.

Parameters: <s> = 0 to 255 (time in seconds)

Reaction: --

Example:

```
>>> R2G2T2DM45
```

Dims Room 2, Group 2, LUXMATE Type 2 brighter for 45 seconds unless stopping or dimming is carried out with DS, the absolute value is set or a scene is called up.

Also refer to:

DM<s> / Start the dimming process (minus) / C / page 32

DS / Stop the dimming process / C / page 34

D-<w> / Reduce the adjustment value relatively / C / page 35

D+<w> / Increase the adjustment value relatively / C / page 36

D%-<p> / Reduce the adjustment value by a percentage / C / page 89

D%+<p> / Increase the adjustment value by a percentage / C / page 90

W<w>! / Set the adjustment value / C / page 62

Error codes: NAK1!, NAK2!, NAK3!, NAK4!, NAK5!, NAK6!

BMS level: 1

DS / Stop the dimming process / C

This LUXMATE command stops the dimming processes which were started with DM<s> or DP<s>. Note that a dimming process has to be stopped with the same addressing and LUXMATE type with which it was started. The adjustment value change is stopped automatically when a new LUXMATE scene is called up.

The old LUXMATE command DSTOP can continue to be used.

Syntax: <Address><Type><Command> = <Address><Type>DS

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

LUXMATE type: All types, wildcard (T# = T1) cannot be used here.

Parameters: --

Reaction: --

Example:

>>> R2G2T2DS

Stops the dimming process in Room 2, Group 2, LUXMATE Type 2.

Also refer to:

DM<s> / Start the dimming process (minus) / C / page 32

DP<s> / Start the dimming process (plus) / C / page 33

D-<w> / Reduce the adjustment value relatively / C / page 35

D+<w> / Increase the adjustment value relatively / C / page 36

D%-<p> / Reduce the adjustment value by a percentage / C / page 89

D%+<p> / Increase the adjustment value by a percentage / C / page 90

W<w>! / Set the adjustment value / C / page 62

Error codes: NAK1!, NAK2!, NAK3!, NAK4!, NAK5!, NAK6!

BMS level: 1

D-<w> / Reduce the adjustment value relatively / C

This LUXMATE command is used to subtract relative values from the current adjustment value (= dimming).

The relative value is maximally half as large as the maximum adjustment value. The adjustment values and thus also the relative values depend on the respective type. In case of luminaires (maximum value = 255), for example, the relative value cannot exceed 127.

The movement of the blinds can be stopped with T3 and <d> = 1.

Syntax: <Address><Type><Command> = <Address><Type>D-<w>

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

LUXMATE type: All types, wildcard (T# = T1) cannot be used here.

Parameters:

<w> = The range of values depends on the type. Depending on the set default type or the LUXMATE type in the LUXMATE address various ranges of values are possible.

Reaction: --

Example:

>>> R2G2T2D-1

Dims Room 2, Group 2, LUXMATE Type 2 by one adjustment value downwards.

Also refer to:

DM<s> / Start the dimming process (minus) / C / page 32

DP<s> / Start the dimming process (plus) / C / page 33

DS / Stop the dimming process / C / page 34

D+<w> / Increase the adjustment value relatively / C / page 36

D%-<p> / Reduce the adjustment value by a percentage / C / page 89

D%+<p> / Increase the adjustment value by a percentage / C / page 90

W<w>! / Set the adjustment value / C / page 62

Error codes: NAK1!, NAK2!, NAK3!, NAK4!, NAK5!, NAK6!

BMS level: 1

D+<w> / Increase the adjustment value relatively / C

This LUXMATE command is used to add relative values to the current adjustment value (= dimming).

The relative value is maximally half as large as the maximum adjustment value. The adjustment values and thus also the relative values depend on the respective type. In case of luminaires (maximum value = 255), for example, the relative value cannot exceed 127.

The movement of the blinds can be stopped with T3 and <d> = 1.

Syntax: <Address><Type><Command> = <Address><Type>D+<w>

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

LUXMATE type: All types, wildcard (T# = T1) cannot be used here.

Parameters:

<w> = The range of values depends on the type. Depending on the set default type or the LUXMATE type in the LUXMATE address various ranges of values are possible.

Reaction: --

Example:

>>> R2G2T2D+1

Dims Room 2, Group 2, LUXMATE Type 2 by one adjustment value upwards.

Also refer to:

DM<s> / Start the dimming process (minus) / C / page 32

DP<s> / Start the dimming process (plus) / C / page 33

DS / Stop the dimming process / C / page 34

D-<w> / Reduce the adjustment value relatively / C / page 35

D%-<p> / Reduce the adjustment value by a percentage / C / page 89

D%+<p> / Increase the adjustment value by a percentage / C / page 90

W<w>! / Set the adjustment value / C / page 62

Error codes: NAK1!, NAK2!, NAK3!, NAK4!, NAK5!, NAK6!

BMS level: 1

FADE / Call up the LUXMATE Scene "Off" gradually / C

This LUXMATE command switches all the LUXMATE outputs to LUXMATE scene 0 with the slowest fading rate (= 255). The LUXMATE command cannot be sent to a single bus address.

Syntax: <Address><Type><Command> = <Address><Type>FADE

Addressing type: [TLR#]R# or [TLR#]R#G# or "Name"

LUXMATE type: T1

Parameters: --

Reaction: --

Example:

```
>>> R1FADE
```

Switches Room 1 to LUXMATE Scene 0 with the slowest fading rate.

Also refer to:

FADE!<f> / Set the fading rate / C / page 38

OFF / Call up the LUXMATE Scene "Off" rapidly / C / page 45

PROGS<s> / Store a LUXMATE scene / C / page 46

PRG / Store a LUXMATE scene / C / page 73

SR / Call up the LUXMATE scene again / C / page 75

S<s>! / Call up the LUXMATE scene / C / page 52

S<s>F<f>! / Call up a scene with a fading rate / C / page 53

ST / Change a LUXMATE scene / C / page 76

Error codes: NAK1!, NAK2!, NAK5!, NAK6!

BMS level: 1

FADE!<f> / Set the fading rate / C

This LUXMATE command sets an internal variable. This internal variable corresponds to the LUXMATE fading rate. The LUXMATE fading rate is used when switching with Ss! and OFF. The internal variable exists exactly once - the LUXMATE address is therefore irrelevant.

Up to BMS Version 2.01 the LUXMATE fading rate is normally only valid for a short period since the LUXMATE fading rate can be reset at any time by every command device at the LUXMATE bus. The LUXMATE command should therefore be sent immediately before a LUXMATE command with which a LUXMATE scene is called up.

Syntax: <Address><Type><Command> = <Address><Type>FADE!<f>

Addressing type: [TLR#]R# or [TLR#]R#G# or "Name"

LUXMATE type: T1

Parameters:

<f> = 0 to 255

0 = Fast (0 sec.)

255 = Slow (60 sec.)

For the LM-SI03 before BMS Version 2.02 reversedly:

<f> = 0 to 9

9 = Fast (0 sec.)

0 = Slow (60 sec.)

Reaction: --

Example:

>>> R1FADE!255

Sets the internal variable to 255. The LUXMATE scene is changed slowly during the next change.

Also refer to:

FADE / Call up the LUXMATE Scene "Off" gradually / C / page 37

OFF / Call up the LUXMATE Scene "Off" rapidly / C / page 45

PROGS<s> / Store a LUXMATE scene / C / page 46

PRG / Store a LUXMATE scene / C / page 73

SR / Call up the LUXMATE scene again / C / page 75

S<s>! / Call up the LUXMATE scene / C / page 52

S<s>F<f>! / Call up a scene with a fading rate / C / page 53

ST / Change a LUXMATE scene / C / page 76

Error codes: NAK1!, NAK2!, NAK5!, NAK6!

BMS level: 1

GET_ / Poll addresses of the name object / C

Names are used to combine areas of a building. This allows you to address a collection of LUXMATE addresses ([TLR#]R# or [TLR#]R#G# or [TLR#]R#B#) by means of a name. You use, for example, names which reflect the real building structure. You can use all the ASCII characters for the names (except for control characters and exclamation mark = 22h). The names are set in quotation marks. When you send a LUXMATE command to a combined area, specify the name in the LUXMATE address ("Name"). In case of queries the LUXMATE BMS interface sends a single response for a combined area.

LM-SI03: Here you use the fixed names "C1", "C2", "C3", "C4", "C5", "C6", "C7", "C8".

LM-TLR: Any names are possible here. They are stored in the file "NAMELIST.TAB".

LRA: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

LM-SRV: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

With this LUXMATE command you call up a list of all the LUXMATE address entries of the name object. If no special name object is specified, all the name objects are listed.

Syntax: <Name><Command> = <Name>GET_

Addressing type: "Name"

LUXMATE type: --

Parameters: --

Reaction: <Name>ITEM_<a>

Example: >>> "Corridor"GET_
<<< "Corridor"ITEM_R1G1
<<< "Corridor"ITEM_R1G2

Also refer to:

ADD_<a> / Add an address to the name object / C / page 27
 DEL_ / Delete a LUXMATE name object completely / C / page 88
 DEL_<a> / Delete an address in the LUXMATE name object / C / page 31
 ITEM_<a> / Poll the addresses of the name object / R / page 41
 NEW_ / Create a LUXMATE name object / C / page 44
 REN_<n> / Rename the LUXMATE name object / C / page 102

Error codes: NAK11!

BMS level: 2

G<g>!! / Set the default value for the LUXMATE group / C

The LUXMATE BMS interface automatically supplements the missing parts of the <Address> with LUXMATE default values. If, for example, you wish to address a LUXMATE output (B#), specify only the LUXMATE output in the <Address> (e.g. B5). The LUXMATE BMS interface automatically supplements the superior areas (e.g. TLR1R2) with LUXMATE default values. These LUXMATE default values are set beforehand.

This LUXMATE command sets the default group number.

Syntax: <Command> = G<g>!!

Addressing type: --

LUXMATE type: --

Parameters: <g> = 0 to 99 (group number)

Reaction: --

Example:

>>> G7!!

The default group number is set to 7.

Also refer to:

B!! / Set a default value for the LUXMATE output / C / page 29

R<r>!! / Set the default value for the LUXMATE room / C / page 48

TLR<t>!! / Set the default value for the field bus / C / page 58

TLR<t>R<r>G<g>BT<y>!! / Set all the default values / C / page 59

T<y>!! / Set the default value for the LUXMATE type / C / page 60

Error codes: NAK6!

BMS level: 2

ITEM_<a> / Poll the addresses of the name object / R

Names are used to combine areas of a building. This allows you to address a collection of LUXMATE addresses ([TLR#]R# or [TLR#]R#G# or [TLR#]R#B#) by means of a name. You use, for example, names which reflect the real building structure. You can use all the ASCII characters for the names (except for control characters and exclamation mark = 22h). The names are set in quotation marks. When you send a LUXMATE command to a combined area, specify the name in the LUXMATE address ("Name"). In case of queries the LUXMATE BMS interface sends a single response for a combined area.

LM-SI03: Here you use the fixed names "C1", "C2", "C3", "C4", "C5", "C6", "C7", "C8".

LM-TLR: Any names are possible here. They are stored in the file "NAMELIST.TAB".

LRA: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

LM-SRV: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

This is the response to the LUXMATE command GET_. With this LUXMATE command you call up a list of all the LUXMATE address entries of the name object.

Syntax: <Name><Response> = <Name>ITEM<a>

Addressing type: "Name"

LUXMATE type: --

Parameters: <a> = [TLR#]R# or [TLR#]R#G# or [TLR#]R#B#

LUXMATE command: <Name>GET_

Example: >>> "Corridor"GET_
<<< "Corridor"ITEM_R1G1
<<< "Corridor"ITEM_R1G2

Also refer to:

ADD_<a> / Add an address to the name object / C / page 27
DEL_ / Delete a LUXMATE name object completely / C / page 88
DEL_<a> / Delete an address in the LUXMATE name object / C / page 31
GET_ / Poll addresses of the name object / C / page 39
NEW_ / Create a LUXMATE name object / C / page 44
REN_<n> / Rename the LUXMATE name object / C / page 102

Error codes: NAK11!

BMS level: 2

I? / Poll a sensor / C

This LUXMATE command I? polls a sensor value if a sensor exists.

Syntax: <Address><Type><Command> = <Address><Type>I?

Addressing type:

[TLR#]R#B#

The real bus address of an internal sensor is assigned at the input device.

128 is added to the bus address. Specify this value as the bus address.

If LUXMATE air-conditioners are polled, the LUXMATE air conditioner or its LUXMATE type has to be called up with the real bus address.

The following conventions apply if the sensors to be polled are positioned on the backbone bus:

TLR: Add 128 to the real field bus number (TLR). If, for example, the real field bus number is 3 (TLR3), the current field bus number is 131.

LRA / LM-SRV: At the LRA or LM-SRV you can assign the field bus number freely. Assignment is subject to a certain convention for systemization. The field bus number for the backbone bus of an LRA results from the sum of the lowest field bus number which is assigned at the LRA plus the value of 128. For example, the lowest field bus number of an LRA is LRA 7. The number 135 (7 + 128) is assigned to the backbone bus of this LRA.

In case of questions or uncertainties please contact your LUXMATE contact partner or the LUXMATE call center.

LUXMATE type:

All types, wildcard (T# = T1) cannot be used here.

The types for LUXMATE air-conditioners are listed in the type table (service HLK).

Parameters: --

Reaction: <Address><Type>D<d>E<e>

Example:

>>> R7B142T2I?

<<< R7I142T2D255E0

Interior sensor (light, T2) signals a value of 255 without errors.

The bus address is 24 (24 + 128 = 142).

>>> R5B6T35I?

<<< R5I6T35D25.32E0

The temperature sensor of the LUXMATE air-conditioner signals a room temperature of 25.32 °C without errors. The bus address is 6.

Also refer to:

D<d>E<e> / Poll a sensor / R / page 30

Error codes: --

BMS level: 2

NAK<n>! / Respond to faulty commands / R

This response is an error message which the LUXMATE BMS interface sends after faulty messages have been received. The characters "N", "A" and "K" are individual ASCII characters.

Syntax: <Response> = NAK<n>!

Addressing type: --

LUXMATE type: --

Parameters:

<n>	= 1 to 6, 8, 10 to 14 (error code)
1	= Unknown room number
2	= Unknown group number
3	= Unknown bus number
4	= Unknown LUXMATE type or LUXMATE type not allowed
5	= Unknown TLR number
6	= Invalid data (e.g. time = 26:94)
8	= Unknown command
10	= Group error at the use of wildcards or at names (no LUXMATE output found)
11	= Name does not exist
12	= Bus short-circuit
13	= Init state
14	= -- Status feedback possible

LUXMATE command: All

Example:

```
>>> R1G7T3WRONG
<<< NAK8!
Unknown command.
```

Also refer to: --

Error codes: --

BMS level: 2

NEW_ / Create a LUXMATE name object / C

Names are used to combine areas of a building. This allows you to address a collection of LUXMATE addresses ([TLR#]R# or [TLR#]R#G# or [TLR#]R#B#) by means of a name. You use, for example, names which reflect the real building structure. You can use all the ASCII characters for the names (except for control characters and exclamation mark = 22h). The names are set in quotation marks. When you send a LUXMATE command to a combined area, specify the name in the LUXMATE address ("Name"). In case of queries the LUXMATE BMS interface sends a single response for a combined area.

LM-SI03: Here you use the fixed names "C1", "C2", "C3", "C4", "C5", "C6", "C7", "C8".

LM-TLR: Any names are possible here. They are stored in the file "NAMELIST.TAB".

LRA: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

LM-SRV: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

This LUXMATE command creates a new name object.

Syntax: <Name><Command> = <Name>NEW_

Addressing type: "Name"

LUXMATE type: --

Parameters: --

Reaction: --

Example:

>>> "Corridor"NEW_ The "Corridor" name object is created.

Also refer to:

ADD_<a> / Add an address to the name object / C / page 27
 DEL_ / Delete a LUXMATE name object completely / C / page 88
 DEL_<a> / Delete an address in the LUXMATE name object / C / page 31
 GET_ / Poll addresses of the name object / C / page 39
 ITEM_<a> / Poll the addresses of the name object / R / page 41
 REN_<n> / Rename the LUXMATE name object / C / page 102

Error codes: NAK11!

BMS level: 2

OFF / Call up the LUXMATE Scene "Off" rapidly / C

This LUXMATE command calls up the LUXMATE Scene 0. The change from the current LUXMATE scene to the LUXMATE Scene 0 is carried out with the set LUXMATE fading rate.

The LUXMATE fading rate is set by means of the LUXMATE command FADE!<f>.

Syntax: <Address><Type><Command> = <Address><Type>OFF

Addressing type: [TLR#]R# or [TLR#]R#G# or "Name"

LUXMATE type: T1

Parameters: --

Reaction: --

Example:

>>> R14G54OFF

Switches Room 14, Group 54 to LUXMATE Scene 0 with the last valid fading rate.

Also refer to:

FADE / Call up the LUXMATE Scene "Off" gradually / C / page 37

FADE!<f> / Set the fading rate / C / page 38

PROGS<s> / Store a LUXMATE scene / C / page 46

PRG / Store a LUXMATE scene / C / page 73

SR / Call up the LUXMATE scene again / C / page 75

S<s>! / Call up the LUXMATE scene / C / page 52

S<s>F<f>! / Call up a scene with a fading rate / C / page 53

ST / Change a LUXMATE scene / C / page 76

Error codes: NAK1!, NAK2!, NAK5!, NAK6!

BMS level: 1

PROGS<s> / Store a LUXMATE scene / C

This LUXMATE command stores a scene. Scenes are defined depending on the type of use of the room. To this purpose the individual adjustment values of the various LUXMATE types are set and stored as a LUXMATE scene. The stored adjustment values are also retained after a manual intervention and become active when the LUXMATE scene is called up again. The response is only sent via a LUXMATE BMS interface having the Level 3. It corresponds to the text which is displayed at the LUXMATE input device.

Syntax: <Address><Type><Command> = <Address><Type>PROGS<s>

Addressing type: [TLR#]R# or [TLR#]R#G# or "Name"

LUXMATE type: T1

Parameters:

<s> = 0 to 20 and 99
 0 to 20 = Scene
 99 = Stores the current scene

Reaction: <Address><Type><text> (BMS Level 3)

<text> = Text which is displayed at the LM input device
 SYS A = Setting of System Point A
 SYS B = Setting of System Point B
 SYS C = Setting of System Point C
 SET ok = Setting the scene if daylight is blocked
 SYS B/C = Setting of System Point B and C simultaneously, in different groups
 NO TLM! = Measuring head does not exist
 NO PROG = Nothing is being programmed because no LUXMATE outputs were dimmed

Example:

```
>>> R1G2PROGS3
Stores LUXMATE Scene 3 in Room 1, Group 2
<<< SET ok
```

Also refer to:

FADE / Call up the LUXMATE Scene "Off" gradually / C / page 37
 FADE!<f> / Set the fading rate / C / page 38
 OFF / Call up the LUXMATE Scene "Off" rapidly / C / page 45
 PRG / Store a LUXMATE scene / C / page 73
 SR / Call up the LUXMATE scene again / C / page 75
 S<s>! / Call up the LUXMATE scene / C / page 52
 S<s>F<f>! / Call up a scene with a fading rate / C / page 53
 ST / Change a LUXMATE scene / C / page 76

Error codes: NAK1!, NAK2!, NAK5!, NAK6!

BMS level:

2 (LM-SI03, LRA, server) or
 3 (TLR, if PROGLOCK > 0)

RESET / Set the works settings / C

You can reset the LUXMATE BMS interface to the state of delivery. All the name objects which you have designated with a name are deleted. The LUXMATE BMS interface deletes the LUXMATE default values which you have set. The LUXMATE fading rate is set to the adjustment value $\langle f \rangle = 0$. All the adjustment-value changes are stopped. Automatic monitoring is de-activated.

Syntax: `<Command> = RESET`

Addressing type: --

LUXMATE type: --

Parameters: --

Reaction: --

Example: `>>> RESET`

Also refer to: --

Error codes: --

BMS level: 2

R<r>!! / Set the default value for the LUXMATE room / C

The LUXMATE BMS interface automatically supplements the missing parts of the <Address> with LUXMATE default values. If, for example, you wish to address a LUXMATE output (B#), specify only the LUXMATE output in the <Address> (e.g. B5). The LUXMATE BMS interface automatically supplements the superior areas (e.g. TLR1R2) with LUXMATE default values. These LUXMATE default values are set beforehand.

This LUXMATE command sets the default room number.

Syntax: <Command> = R<r>!!

Addressing type: --

LUXMATE type: --

Parameters: <r> = 0 to 99 (room number)

Reaction: --

Example:

>>> R7!!

The default room number is set to 7.

Also refer to:

B!! / Set a default value for the LUXMATE output / C / page 29
G<g>!! / Set the default value for the LUXMATE group / C / page 40
TLR<t>!! / Set the default value for the field bus / C / page 58
TLR<t>R<r>G<g>BT<y>!! / Set all the default values / C / page 59
T<y>!! / Set the default value for the LUXMATE type / C / page 60

Error codes: NAK6!

BMS level: 2

SP_<p>? / Poll the BMS settings / C

This LUXMATE command is used to poll an internal device-independent parameter each.

Syntax: <Command> = SP_<p>?

Addressing type: --

LUXMATE type: --

Parameters:

<p> = DINC or DDT

DINC = Poll the current dimming increment for the commands DM and DP.

DDT = Poll the current dimming timeout for the commands DM and DP. The dimming time out is the time between two dimming messages which are sent via the LUXMATE bus.

Reaction: SP_<p><w>

Example:

```
>>> SP_DINC?
```

```
<<< SP_DINC4
```

The current dimming increment for the commands DP and DM is 4 increments.

Also refer to:

SP_<p><w> / Poll the BMS settings / R / page 50

SP_<p><w>! / Set the BMS settings / C / page 51

Error codes: NAK10!

BMS level: 0

SP_<p><w> / Poll the BMS settings / R

This is the response to the LUXMATE command SP_<p>?. This LUXMATE command is used to poll an internal device-independent parameter each.

Syntax: <Response> = SP_<p><w>

Addressing type: --

LUXMATE type: --

Parameters:

<p> = DINC or DDT

DINC = Poll the current dimming increment for the commands DM and DP.

DDT = Poll the current dimming timeout for the commands DM and DP. The dimming timeout is the time between two dimming messages which are sent via the LUXMATE bus.

<w> for DINC = 1 to 255 (dimming increment), LUXMATE default value is 2

<w> for DDT = 50 to 1000 (dimming timeout, in ms), LUXMATE default value is 200 ms

LUXMATE command: SP_<p>?

Example:

```
>>> SP_DINC?
```

```
<<< SP_DINC4
```

The current dimming increment for the commands DP and DM is 4 increments.

Also refer to:

SP_<p>? / Poll the BMS settings / C / page 49

SP_<p><w>! / Set the BMS settings / C / page 51

Error codes: --

BMS level: 0

SP_<p><w>! / Set the BMS settings / C

This LUXMATE command is used to set an internal device-independent parameter each.

Syntax: <Command> = SP_<p><w>!

Addressing type: --

LUXMATE type: --

Parameters:

<p> = DINC or DDT

DINC = Poll the current dimming increment for the commands DM and DP.

DDT = Poll the current dimming timeout for the commands DM and DP. The dimming timeout is the time between two dimming messages which are sent via the LUXMATE bus.

<w> for DINC = 1 to 255 (dimming increment), LUXMATE default value is 2

<w> for DDT = 50 to 1000 (dimming timeout, in ms), LUXMATE default value is 200 ms

Reaction: --

Example:

>>> SP_DINC4!

Sets the value of the parameter to 4.

Also refer to:

SP_<p>? / Poll the BMS settings / C / page 49

SP_<p><w> / Poll the BMS settings / R / page 50

Error codes: NAK10!, NAK6!

BMS level: 0

S<s>! / Call up the LUXMATE scene / C

This LUXMATE command calls up a LUXMATE scene. The change from the current LUXMATE scene to the new LUXMATE scene is carried out with the set LUXMATE fading rate. The LUXMATE fading rate is set by means of the LUXMATE command FADE!<f>.

Syntax: <Address><Type><Command> = <Address><Type>S<s>!

Addressing type: [TLR#]R# or [TLR#]R#G# or "Name"

LUXMATE type: T1

Parameters: <s>= 0 to 20 (scene)

Reaction: --

Example:

>>> R14G54S4!

Switches Room 14, Group 54 to LUXMATE Scene 4 with the set fading rate.

Also refer to:

FADE / Call up the LUXMATE Scene "Off" gradually / C / page 37

FADE!<f> / Set the fading rate / C / page 38

OFF / Call up the LUXMATE Scene "Off" rapidly / C / page 45

PROGS<s> / Store a LUXMATE scene / C / page 46

PRG / Store a LUXMATE scene / C / page 73

SR / Call up the LUXMATE scene again / C / page 75

S<s>F<f>! / Call up a scene with a fading rate / C / page 53

ST / Change a LUXMATE scene / C / page 76

Error codes: NAK1!, NAK2!, NAK5!, NAK6!

BMS level: 1

S<s>F<f>! / Call up a scene with a fading rate / C

This LUXMATE command calls up a LUXMATE scene. At the same time you set the LUXMATE fading rate for the change from the current LUXMATE scene to the new LUXMATE scene. The LUXMATE fading rate is only valid for this scene change.

Syntax: <Address><Type><Command> = <Address><Type>S<s>F<f>!

Addressing type: [TLR#]R# or [TLR#]R#G# or "Name"

LUXMATE type: T1

Parameters:

<s> = 0 to 20 (scene)

<f> = 0 to 255 (fading rate)

0 = Fast (0 sec.)

255 = Slow (60 sec.)

For the LM-SI03 before BMS Version 2.02 exactly in reverse:

<f> = 0 to 9

9 = Fast (0 sec.)

0 = Slow (60 sec.)

Reaction: --

Example:

>>> R14G54S4F30!

Switches Room 14, Group 54 to LUXMATE Scene 4 with the LUXMATE fading rate 30.

Also refer to:

FADE / Call up the LUXMATE Scene "Off" gradually / C / page 37

FADE!<f> / Set the fading rate / C / page 38

OFF / Call up the LUXMATE Scene "Off" rapidly / C / page 45

PROGS<s> / Store a LUXMATE scene / C / page 46

PRG / Store a LUXMATE scene / C / page 73

SR / Call up the LUXMATE scene again / C / page 75

S<s>! / Call up the LUXMATE scene / C / page 52

ST / Change a LUXMATE scene / C / page 76

Error codes: NAK1!, NAK2!, NAK5!, NAK6!

BMS level: 1

S<s>W<w>E<f> / Poll the LUXMATE output individually / R

There are basically two forms of response which depend on the area polled. If you only concretely poll only one LUXMATE output ([TLR#]R#B#), a single response is sent in the form of S<s>W<w>E<f>. If you poll a range ([TLR#], [TLR#]R#, [TLR#]R#G#, "Name"), a group response is sent in the form of S<s>W<w>E<e><f><g><h><i>.

This is the **single response** to various commands, depending on the polled LUXMATE output. These commands are used to have this response with the current LUXMATE scene or the current adjustment value and errors occurring sent automatically or once. It is sent as soon as the LUXMATE scene changes or after a defined period.

Syntax: <Address><Type><Response> = <Address><Type>S<s>W<w>E<f>

Addressing type: [TLR#]R#B#

LUXMATE type: All

Parameters:

<s> = 0 to 20 (scene)
 <w> = A type-dependent value. Depending on the set default type or the LUXMATE type in the LUXMATE address various ranges of values are possible.
 <f> = 0 to 3
 0 = No error
 1 = LUXMATE output signals error(s)
 2 = LUXMATE output does not signal
 3 = 1 and 2 simultaneously

LUXMATE command:

<Address><Type>?

<Address><Type>AUTO<a>!

Example:

>>> TLR1R2B4T2?

<<< TLR1R2B4T2S2W243E0

The luminaire signals LUXMATE Scene 2 and adjustment value 243. No error.

Also refer to:

ADD_<a> / Add an address to the name object / C / page 27
 AUTOM<a>! / Poll a manual intervention automatically / C / page 83
 AUTOW<a>! / Poll an adjustment value automatically / C / page 84
 MAN / Poll a manual intervention automatically / R / page 99
 MANSTART / Poll a manual intervention / R / page 100
 S<s>W<w>E<e><f><g><h><i> / Poll the area (sum) / R / page 55
 ? / Poll the scene, adjustment value and errors / C / page 63

Error codes: --

BMS level: 1

S<s>W<w>E<e>f<f>g<g>h<h>i<i> / Poll the area (sum) / R

There are basically two forms of response which depend on the area polled. If you only concretely poll only one LUXMATE output ([TLR#]R#B#), a single response is sent in the form of S<s>W<w>E<e>f<f>. If you poll a range ([TLR#], [TLR#]R#, [TLR#]R#G#, "Name"), a group response is sent in the form of S<s>W<w>E<e>f<f>g<g>h<h>i<i>.

This is the **sum response** to various commands, depending on the polled output. These commands are used to have this response with the current LUXMATE scene or the current adjustment value and errors occurring sent automatically or once. It is sent as soon as the LUXMATE scene changes or after a defined period.

Syntax: <Address><Type><Response> = <Address><Type>S<s>W<w>E<e>f<f>g<g>h<h>i<i>j

Addressing type: [TLR#]R# or [TLR#]R#G# or "Name"

LUXMATE type: All

Parameters:

<s> = 0 to 20 and x (scene)
 x = Different scenes for various devices
 <w> = x or a type-dependent value. Depending on the set default type or the LUXMATE type in the LUXMATE address various ranges of values are possible.
 x = Different adjustment values for various devices
 <e> = 0 or 1 (communication error of the device with the LUXMATE bus)
 <f> = 0 to 3 (one or more LUXMATE outputs in the room or in the group signal errors)
 1 = LUXMATE output signals error(s) (at least one)
 2 = LUXMATE output does not signal (at least one)
 3 = 1 and 2 simultaneously
 <g> = 0 or 3 (one or more sensors in the room or in the group signals errors or does not signal at all)
 <h> = 0 or 2 (TLM signals errors)
 <i> = Not assigned at present

LUXMATE command:

<Address><Type>?
 <Address><Type>AUTO<a>!

Example: >>> TLR1R2G4T2?

<<< TLR1R2G4T2S2W243E02000 (The luminaire signals LUXMATE Scene 2 and adjustment value 243. At least one LUXMATE output does not signal).

Also refer to:

ADD_<a> / Add an address to the name object / C / page 27
 AUTOM<a>! / Poll a manual intervention automatically / C / page 83
 AUTOW<a>! / Poll an adjustment value automatically / C / page 84
 MAN / Poll a manual intervention automatically / R / page 99
 MANSTART / Poll a manual intervention / R / page 100
 S<s>W<w>E<e>f<f> / Poll the LUXMATE output individually / R / page 54
 ? / Poll the scene, adjustment value and errors / C / page 63

Error codes: --

BMS level: 1

T<hh><mm><ss> / Set the time / C

This LUXMATE command sets the system time of the TLR/LRA/server.

The seconds cannot be set under Version 2.02.

At TLR and LRA the system time of the computer applies as the LUXMATE system time. This is visible on LUXMATE operating devices with display.

Syntax: <Command> = T<hh><mm><ss>

Addressing type: --

LUXMATE type: --

Parameters:

<hh> = 00 to 23 (hours)

<mm> = 00 to 59 (minutes)

<ss> = 00 to 59 (seconds)

Reaction: --

Example:

>>> T1312

Sets the time to 13:12.

Also refer to:

D<dd><mm><yyyy> / Set the date / C / page 87

TIME? / Poll the data and time / C / page 57

TIME<hh><mm><ss><dd><mm><yyyy> / Poll the date and time / R / page 106

UHR? / Poll the time / C / page 78

UHR<hh><mm> / Poll the time / R / page 79

Error codes: NAK6!

BMS level: 2

TIME? / Poll the data and time / C

This LUXMATE command polls the system time and date of the TLR/LRA/server. The LUXMATE command is implemented as from Version 2.02.

Syntax: <Command> = TIME?

Addressing type: --

LUXMATE type: --

Parameters: --

Reaction: TIME<hh><mm><ss><dd><mm><yyyy>

Example:

```
>>> TIME?
```

```
<<< TIME09302530111999
```

System time and date are set to 09:30:25 on 30.11.1999.

Also refer to:

D<dd><mm><yyyy> / Set the date / C / page 87

T<hh><mm><ss> / Set the time / C / page 56

TIME<hh><mm><ss><dd><mm><yyyy> / Poll the date and time / R / page 106

UHR? / Poll the time / C / page 78

UHR<hh><mm> / Poll the time / R / page 79

Error codes: NAK6!

BMS level: 2

TLR<t>!! / Set the default value for the field bus / C

The LUXMATE BMS interface automatically supplements the missing parts of the <Address> with LUXMATE default values. If, for example, you wish to address a LUXMATE output (B#), specify only the LUXMATE output in the <Address> (e.g. B5). The LUXMATE BMS interface automatically supplements the superior areas (e.g. TLR1R2) with LUXMATE default values. These LUXMATE default values are set beforehand.

This LUXMATE command sets the default field bus number.

Syntax: <Command> = TLR<t>!!

Addressing type: --

LUXMATE type: --

Parameters: <t> = 0 to 99 (field bus number)

Reaction: --

Example:

>>> TLR7!!

The default field bus number is set to 7.

Also refer to:

B!! / Set a default value for the LUXMATE output / C / page 29
G<g>!! / Set the default value for the LUXMATE group / C / page 40
R<r>!! / Set the default value for the LUXMATE room / C / page 48
TLR<t>R<r>G<g>BT<y>!! / Set all the default values / C / page 59
T<y>!! / Set the default value for the LUXMATE type / C / page 60

Error codes: NAK6!

BMS level: 2

TLR<t>R<r>G<g>BT<y>!! / Set all the default values / C

The LUXMATE BMS interface automatically supplements the missing parts of the <Address> with LUXMATE default values. If, for example, you wish to address a LUXMATE output (B#), specify only the LUXMATE output in the <Address> (e.g. B5). The LUXMATE BMS interface automatically supplements the superior areas (e.g. TLR1R2) with LUXMATE default values. These LUXMATE default values are set beforehand.

This LUXMATE command sets all the default numbers.

Syntax: <Command> = TLR<t>R<r>G<g>BT<y>!!

Addressing type: --

LUXMATE type: --

Parameters:

<t> = 0 to 99 (field bus number)
 <r> = 0 to 99 (room number)
 <g> = 0 to 99 (group number)
 = 0 to 99 (bus number)
 <y> = 1 to 255 (type)

Reaction: --

Example:

>>> TLR7R7G7B7T7!!

All the LUXMATE default values are set to 7.

Also refer to:

B!! / Set a default value for the LUXMATE output / C / page 29
 G<g>!! / Set the default value for the LUXMATE group / C / page 40
 R<r>!! / Set the default value for the LUXMATE room / C / page 48
 TLR<t>!! / Set the default value for the field bus / C / page 58
 T<y>!! / Set the default value for the LUXMATE type / C / page 60

Error codes: NAK6!

BMS level: 2

T<y>!! / Set the default value for the LUXMATE type / C

The LUXMATE BMS interface automatically supplements the missing parts of the <Address> with LUXMATE default values. If, for example, you wish to address a LUXMATE output (B#), specify only the LUXMATE output in the <Address> (e.g. B5). The LUXMATE BMS interface automatically supplements the superior areas (e.g. TLR1R2) with LUXMATE default values. These LUXMATE default values are set beforehand.

This LUXMATE command sets the default type.

Syntax: <Command> = T<y>!!

Addressing type: --

LUXMATE type: --

Parameters: <y> = 1 to 255 (LUXMATE type)

Reaction: --

Example:

>>> T7!!

The default type is set to 7.

Also refer to:

B!! / Set a default value for the LUXMATE output / C / page 29
G<g>!! / Set the default value for the LUXMATE group / C / page 40
R<r>!! / Set the default value for the LUXMATE room / C / page 48
TLR<t>!! / Set the default value for the field bus / C / page 58
TLR<t>R<r>G<g>BT<y>!! / Set all the default values / C / page 59

Error codes: NAK6!

BMS level: 2

VERSION? / Poll the version of the BMS interface / C

This LUXMATE command polls the version number of the LUXMATE BMS interface.

Syntax: <Command> = VERSION?

Addressing type: --

LUXMATE type: --

Parameters: --

Reaction: V<v.vv>L<l>BMS<text>

Example:

```
>>> VERSION?
<<< V2.00L3BMS
```

Also refer to:

V<v.vv>L<l>BMS<text> / Poll the version / R / page 61

Error codes: --

BMS level: 0, 1, 2, 3

V<v.vv>L<l>BMS<text> / Poll the version / R

This is the response to the LUXMATE command VERSION?. This LUXMATE command polls the version number of the LUXMATE BMS interface.

Syntax: <Response> = V<v.vv>L<l>BMS<text>

Addressing type: --

LUXMATE type: --

Parameters:

<v.vv>= 1.00 to 2.03 (version number of the LUXMATE BMS interface)

<l>= 0 to 3 (level)

<text>= (supplementary text, e.g. TLR version)

LUXMATE command: VERSION?

Example:

```
>>> VERSION?
<<< V2.00L3BMS
```

Also refer to:

VERSION? / Poll the version of the BMS interface / C / page 61

Error codes: --

BMS level: 1

W<w>! / Set the adjustment value / C

The LUXMATE command is used to set an absolute adjustment value. You can set absolute adjustment values for all the types (T#) of the LUXMATE outputs (e.g. brightness of the luminaires).

Syntax: <Address><Type><Command> = <Address><Type>W<w>!

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

LUXMATE type:

All types. Wildcard (T# = T1) cannot be used here. Further information on the types are contained in the type table.

Parameters:

<w> = The range of values depends on the type. Depending on the set default type or the LUXMATE type in the LUXMATE address various ranges of values are possible. Further information on the types are contained in the type table.

Reaction: --**Example:**

>>> R1G2T11W-2.5!

Sets the temperature shift in Room 1, Group 2 to -2.5 °C.

>>> R12T2W255!

Sets the adjustment value of all the LUXMATE outputs with LUXMATE Type 2 in Room 12 to 255.

Also refer to:

DM<s> / Start the dimming process (minus) / C / page 32

DP<s> / Start the dimming process (plus) / C / page 33

DS / Stop the dimming process / C / page 34

D-<w> / Reduce the adjustment value relatively / C / page 35

D+<w> / Increase the adjustment value relatively / C / page 36

D%-<p> / Reduce the adjustment value by a percentage / C / page 89

D%+<p> / Increase the adjustment value by a percentage / C / page 90

Error codes: NAK1!, NAK2!, NAK3!, NAK4!, NAK5!, NAK6!

BMS level: 1

? / Poll the scene, adjustment value and errors / C

This LUXMATE command is used to have a response with the current scene, the current adjustment value and errors occurring sent once. This allows you to poll the status of a device or an area. The status of command devices and switches cannot be polled via the LUXMATE BMS interface.

Syntax: <Address><Type><Command> = <Address><Type>?

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

Polling with wildcards = List of responses

Polling with B# = Status of the selected or several LUXMATE outputs (B# = B0).

Polling with G# = Status of the selected or several groups (G# = G0).

Polling only with R# = Status of the selected or several rooms (R# = R0).

LUXMATE type:

All

If no LUXMATE type is specified, the default type is used automatically. If the LUXMATE type = 1, the LUXMATE BMS interface sends the corresponding data for all the supported types.

Parameters: --

Reaction:

<Address><Type>S<s>W<w>E<f>

<Address><Type>S<s>W<w>E<e><f><g><h><i>

Example:

```
>>> TLR1R2G4B5T2?
```

```
<<< TLR1R2G4B5T2S2W243E0
```

The luminaire signals LUXMATE Scene 2 and adjustment value 243. No error.

Also refer to:

AUTO<a>! / Poll a scene automatically / C / page 28

AUTOM<a>! / Poll a manual intervention automatically / C / page 83

AUTOW<a>! / Poll an adjustment value automatically / C / page 84

MAN / Poll a manual intervention automatically / R / page 99

MANSTART / Poll a manual intervention / R / page 100

S<s>W<w>E<f> / Poll the LUXMATE output individually / R / page 54

S<s>W<w>E<e><f><g><h><i> / Poll the area (sum) / R / page 55

Error codes: NAK1!, NAK2!, NAK3!, NAK4!, NAK5!, NAK6!

BMS level: 2

5.3 LM-SI03

In addition to the LUXMATE commands and LUXMATE responses used by default further ones apply only for the LM-SI03.

ANZcccccc / Send the input device display / R

The LM-SI03 hears the EG_ANZEIGE commands at the bus and passes them on to the external system via the LUXMATE BMS interface.

Two commands belong to each EG_ANZEIGE. A timer of 2 seconds is started when one of the two is received. If the corresponding second associated LUXMATE command is received within this period, the response ANZcccccc is sent via the LUXMATE BMS interface. Alternatively only the one part of the EG_ANZEIGE is sent after the timer has expired. The respective missing part of the EG_ANZEIGE is filled with 0.

There are 2 pairs of EG_ANZEIGEN which each belong to each other:

EG_ANZEIGE_1_2 and EG_ANZEIGE_3_7

EG_ANZEIGE_1_3 and EG_ANZEIGE_4_7

You activate or de-activate this response behavior. To do so, you change the EEPROM address 13 MSB.

Syntax: <Response> = ANZcccccc

Addressing type: --

LUXMATE type: --

Parameters: --

Reaction: --

Example:

Also refer to:

E<e>M<m>L<l> / Poll the EEPROM position / R / page 67

E<e>M<m>L<l>! / Set the EEPROM position / C / page 68

E<e>R? / Poll the EEPROM position / C / page 69

TLA<a> / Switch the daylight automation / C / page 77

WDR / Prevent the watchdog reset / C / page 80

Error codes: --

BMS level: 2

DEL / Delete an address block without wildcards / C

This LUXMATE command deletes an address block.

The address blocks manage the state of LUXMATE outputs (B#), LUXMATE rooms (R#) and LUXMATE groups (G#). The maximum number of address blocks is 96.

Syntax: <Address><Type><Command> = <Address><Type>DEL

Addressing type: [TLR#]R# or [TLR#]R#G# or [TLR#]R#B#

LUXMATE type: All

Parameters: --

Reaction: --

Example:

```
>>> R1G4B5T2DEL
```

Deletes the address block with Type 2 for the LUXMATE Output 5 in Group 4 of Room 1.

Also refer to:

DEL ALL / Delete an address block with wildcards / C / page 66

Error codes: NAK1!, NAK2!, NAK3!, NAK5!, NAK6!

BMS level: 2

DEL ALL / Delete an address block with wildcards / C

This LUXMATE command deletes all the address blocks which you have specified with the wildcard in the address.

The address blocks manage the state of LUXMATE outputs (B#), LUXMATE rooms (R#) and LUXMATE groups (G#). The maximum number of address blocks is 96.

Syntax: <Address><Type><Command> = <Address><Type>DELALL

Addressing type: [TLR#]R# or [TLR#]R#G# or [TLR#]R#B#

LUXMATE type: All

Parameters: --

Reaction: --

Example:

```
>>> R1G0T1DELALL
```

Deletes the address blocks of all types in all groups of Room 1.

Also refer to:

DEL / Delete an address block without wildcards / C / page 65

Error codes: NAK1!, NAK2!, NAK3!, NAK5!, NAK6!

BMS level: 2

E<e>M<m>L<l> / Poll the EEPROM position / R

This is the response to the LUXMATE command E<e>R?.

This LUXMATE command polls the word consisting of the MSB (Most Significant Byte) and the LSB (Least Significant Byte) which is saved in the LUXMATE address <e> in the EEPROM.

Syntax: <Response> = E<e>M<m>L<l>

Addressing type: --

LUXMATE type: --

Parameters:

<e> = Word address

<m> = MSB value (Most Significant Byte)

<l> = LSB value (Least Significant Byte)

LUXMATE command: E<e>R?

Example:

```
>>> E9R?
```

```
<<< E9M00L01
```

Contents of the Word Address 9 of the EEPROM:

The MSB (Most Significant Byte) has the value 00. This is the default value for the group number.

The LSB (Least Significant Byte) has the value 01. This is the default value for the bus address.

Also refer to:

ANZcccccc / Send the input device display / R / page 64

E<e>M<m>L<l>! / Set the EEPROM position / C / page 68

E<e>R? / Poll the EEPROM position / C / page 69

TLA<a> / Switch the daylight automation / C / page 77

WDR / Prevent the watchdog reset / C / page 80

Error codes: --

BMS level: 2

E<e>M<m>L<l>! / Set the EEPROM position / C

This LUXMATE command sets the word consisting of the MSB (Most Significant Byte) and the LSB (Least Significant Byte) which is saved in the LUXMATE address <e> in the EEPROM.

Syntax: <Command> = E<e>M<m>L<l>!

Addressing type: --

LUXMATE type: --

Parameters:

<e> = Word address

<m> = MSB value (Most Significant Byte)

<l> = LSB value (Least Significant Byte)

Reaction: --

Example:

>>> E9M00L01!

The MSB (Most Significant Byte) is set to the value 00. This is the default value for the group number.

The LSB (Least Significant Byte) is set to the value 01. This is the default value for the bus address.

Also refer to:

ANZcccccc / Send the input device display / R / page 64

E<e>M<m>L<l> / Poll the EEPROM position / R / page 67

E<e>R? / Poll the EEPROM position / C / page 69

TLA<a> / Switch the daylight automation / C / page 77

WDR / Prevent the watchdog reset / C / page 80

Error codes: --

BMS level: 2

E<e>R? / Poll the EEPROM position / C

This LUXMATE command polls the word consisting of the MSB (Most Significant Byte) and the LSB (Least Significant Byte) which is saved in the LUXMATE address <e> in the EEPROM.

Syntax: <Command> = E<e>R?

Addressing type: --

LUXMATE type: --

Parameters:

<e> = Word address

Reaction: E<e>M<m>L<l>

Example:

>>> E9R?

<<< E9M00L01

Contents of the Word Address 9 of the EEPROM:

The MSB (Most Significant Byte) has the value 00. This is the default value for the group number.

The LSB (Least Significant Byte) has the value 01. This is the default value for the bus address.

Also refer to:

ANZcccccc / Send the input device display / R / page 64

E<e>M<m>L<l> / Poll the EEPROM position / R / page 67

E<e>M<m>L<l>! / Set the EEPROM position / C / page 68

TLA<a> / Switch the daylight automation / C / page 77

WDR / Prevent the watchdog reset / C / page 80

Error codes: --

BMS level: 2

PARGET<p>? / Poll the parameters of the LM-SI03 / C

This LUXMATE command polls specific parameters of the LM-SI03.

Syntax: <Command> = PARGET<p>?

Addressing type: --

LUXMATE type: --

Parameters: The parameters are listed in App. C, page 141 (LM-SI03 configuration). In order to obtain a list of all the parameters, specify <p> = 0.

Reaction: PARSEND<p>W<w>

Example:

```
>>> PARGET1100?
```

```
<<< PARSEND1100W00000100
```

The parameter 1100 has the value 00000100. The watchdog function is activated.

Also refer to:

PARSEND<p>W<w> / Poll the parameters of the SM-SI03 / R

PARSET<p>W<w>! / Set the parameters of the LM-SI03 / C

Error codes: NAK6!, NAK8!

BMS level: 2

PARSEND<p>W<w> / Poll the parameters of the SM-SI03 / R

This is the response to the LUXMATE command PARGET<p>?. This LUXMATE command polls specific parameters of the LM-SI03.

Syntax: <Response> = PARSEND<p>W<w>

Addressing type: --

LUXMATE type: --

Parameters: The parameters are listed in App. C, page 141 (LM-SI03 configuration). In order to obtain a list of all the parameters, specify <p> = 0.

LUXMATE command: PARGET<p>?

Example:

```
>>> PARGET1100?
```

```
<<< PARSEND1100W00000100
```

The parameter 1100 has the value 00000100. The watchdog function is activated.

Also refer to:

PARGET<p>? / Poll the parameters of the LM-SI03 / C

PARSET<p>W<w>! / Set the parameters of the LM-SI03 / C

Error codes: --

BMS level: 2

PARSET<p>W<w>! / Set the parameters of the LM-SI03 / C

This LUXMATE command sets specific parameters of the LM-SI03.

Syntax: <Command> = PARSET<p>W<w>!

Addressing type: --

LUXMATE type: --

Parameters: The parameters are listed in App. C, page 141 (LM-SI03 configuration). In order to obtain a list of all the parameters, specify <p> = 0.

Reaction: --

Example:

```
>>> PARSET1100W00000100!
```

The parameter 1100 is set to the value of 00000100. The watchdog function is activated.

Also refer to:

PARGET<p>? / Poll the parameters of the LM-SI03 / C

PARSEND<p>W<w> / Poll the parameters of the SM-SI03 / R

Error codes: --

BMS level: 2

PRG / Store a LUXMATE scene / C

This LUXMATE command stores the current LUXMATE scene.

Syntax: <Address><Type><Command> = <Address><Type>PRG

Addressing type: [TLR#]R# or [TLR#]R#G#

LUXMATE type: T1

Parameters: <s> = 0 to 20 (scene)

Reaction: --

Example:

>>> R2T1PRG

Stores the current LUXMATE scene in Room 2.

Also refer to:

FADE / Call up the LUXMATE Scene "Off" gradually / C / page 37

FADE!<f> / Set the fading rate / C / page 38

OFF / Call up the LUXMATE Scene "Off" rapidly / C / page 45

PROGS<s> / Store a LUXMATE scene / C / page 46

SR / Call up the LUXMATE scene again / C / page 75

S<s>! / Call up the LUXMATE scene / C / page 52

S<s>F<f>! / Call up a scene with a fading rate / C / page 53

ST / Change a LUXMATE scene / C / page 76

Error codes: --

BMS level: 2

READY / Start the LM-SI03 / R

This response sends the LM-SI03 during starting. LUXMATE commands can be processed afterwards.

Syntax: <Response> = READY

Addressing type: --

LUXMATE type: --

Parameters: --

LUXMATE command: --

Example:

<<< READY

The LM-SI03 is started.

Also refer to: --

Error codes: --

BMS level: 2

SR / Call up the LUXMATE scene again / C

This LUXMATE command calls up the current LUXMATE scene again.

Syntax: <Address><Type><Command> = <Address><Type>SR

Addressing type: [TLR#]R# or [TLR#]R#G#

LUXMATE type: T1

Parameters: --

Reaction: --

Example:

>>> R8T1SR

The current LUXMATE scene is called up again.

Also refer to:

FADE / Call up the LUXMATE Scene "Off" gradually / C / page 37

FADE!<f> / Set the fading rate / C / page 38

OFF / Call up the LUXMATE Scene "Off" rapidly / C / page 45

PROGS<s> / Store a LUXMATE scene / C / page 46

PRG / Store a LUXMATE scene / C / page 73

S<s>! / Call up the LUXMATE scene / C / page 52

S<s>F<f>! / Call up a scene with a fading rate / C / page 53

ST / Change a LUXMATE scene / C / page 76

Error codes: --

BMS level: 2

ST / Change a LUXMATE scene / C

This LUXMATE command is used to change between LUXMATE Scene 0 and a pre-defined scene. The predefined LUXMATE scene is defined in the EEPROM of the LUXMATE device (EEPROM: Word address 11 LSB)

Syntax: <Address><Type><Command> = <Address><Type>ST

Addressing type: [TLR#]R# or [TLR#]R#G#

LUXMATE type: --

Parameters: --

Reaction: --

Example:

>>> R3G4T1ST

Changes to the next defined LUXMATE scene in Group 4 in Room 3.

Also refer to:

FADE / Call up the LUXMATE Scene "Off" gradually / C / page 37

FADE!<f> / Set the fading rate / C / page 38

OFF / Call up the LUXMATE Scene "Off" rapidly / C / page 45

PROGS<s> / Store a LUXMATE scene / C / page 46

PRG / Store a LUXMATE scene / C / page 73

SR / Call up the LUXMATE scene again / C / page 75

S<s>! / Call up the LUXMATE scene / C / page 52

S<s>F<f>! / Call up a scene with a fading rate / C / page 53

Error codes: --

BMS level: 2

TLA<a> / Switch the daylight automation / C

This LUXMATE command switches the daylight automation on or off.

Syntax: <Address><Type><Command> = <Address><Type>TLA<a>

Addressing type: [TLR#]R# or [TLR#]R#G#

LUXMATE type: --

Parameters:

<a> = 0 or 1

0 = Off

1 = On

Reaction: --

Example:

>>> R6T1TLA1

Activates the daylight automation if an LM-TLR, LRA or LM-TLS exists.

Also refer to:

ANZcccccc / Send the input device display / R / page 64

E<e>M<m>L<l> / Poll the EEPROM position / R / page 67

E<e>M<m>L<l>! / Set the EEPROM position / C / page 68

E<e>R? / Poll the EEPROM position / C / page 69

WDR / Prevent the watchdog reset / C / page 80

Error codes: --

BMS level: 2

UHR? / Poll the time / C

This LUXMATE command polls the time.

Syntax: <Command> = UHR?

Addressing type: --

LUXMATE type: --

Parameters: --

Reaction: UHR<hh><mm>

Example:

>>> UHR?

<<< UHR1428

The current time is 14:28.

Also refer to:

D<dd><mm><yyyy> / Set the date / C / page 87

T<hh><mm><ss> / Set the time / C / page 56

TIME? / Poll the data and time / C / page 57

TIME<hh><mm><ss><dd><mm><yyyy> / Poll the date and time / R / page 106

UHR<hh><mm> / Poll the time / R / page 79

Error codes: --

BMS level: 2

UHR<hh><mm> / Poll the time / R

This is the response to the LUXMATE command UHR?. This LUXMATE command polls the time.

Syntax: <Response> = UHR<hh><mm>

Addressing type: --

LUXMATE type: --

Parameters:

<hh> = 0 to 23 (hour)

<mm> = 0 to 59 (minute)

LUXMATE command: UHR?

Example:

>>> UHR?

<<< UHR1428

The current time is 14:28.

Also refer to:

D<dd><mm><yyyy> / Set the date / C / page 87

T<hh><mm><ss> / Set the time / C / page 56

TIME? / Poll the data and time / C / page 57

TIME<hh><mm><ss><dd><mm><yyyy> / Poll the date and time / R / page 106

UHR? / Poll the time / C / page 78

Error codes: --

BMS level: 2

WDR / Prevent the watchdog reset / C

This LUXMATE command prevents the activated watchdog reset for the next three minutes (see Parameter No. 1100, Bit 3).

Syntax: <Command> = WDR

Addressing type: --

LUXMATE type: --

Parameters: --

Reaction: --

Example:

```
>>> WDR
```

Prevents the watchdog reset for the next three minutes.

Also refer to:

ANZcccccc / Send the input device display / R / page 64

E<e>M<m>L<l> / Poll the EEPROM position / R / page 67

E<e>M<m>L<l>! / Set the EEPROM position / C / page 68

E<e>R? / Poll the EEPROM position / C / page 69

TLA<a> / Switch the daylight automation / C / page 77

Error codes: --

BMS level: 2

5.4 TLR / LRA / SRV

In addition to the default LM-TLR, LRA and LM-SRV support the following commands and responses.

A<a><hh><mm> / Set the room-specific switching-off time / C

This LUXMATE command sets one of the three switching-off times for a room.

Syntax: <Address><Type><Command> = <Address><Type>A<a><hh><mm>

Addressing type: [TLR#]R# or [TLR#]R#G#

LUXMATE type: --

Parameters:

<a> = 1 to 3 (switching-off time number)
<hh> = 0 to 23 (switching-off time in hours)
25 = Delete the entry
<mm> = 0 to 59 (switching-off time in minutes)

Reaction: --

Example:

>>> R1A32235
Sets the third switching-off time in Room 1 to 22:35.

Also refer to:

AGZ<hh><mm><hh><mm><aa> / Set the global switching-off time / C / page 82
E<e><hh><mm> / Set the room-specific switching-on time / C / page 91
EGZ<hh><mm> / Set the global switching-on time / C / page 92

Error codes: NAK1!, NAK2!, NAK5!

BMS level: 3

AGZ<hh><mm>,<hh><mm>,<aa> / Set the global switching-off time / C

This LUXMATE command sets the global switching-off time in the respective TLR or LRA. This global switching-off time acts for the whole building. The switching-off time is set to a specific value (e.g. 20:00). You can optionally specify an interval <aa> and a second value. The PC switches off several times in the interval <aa> (e.g. 30 minutes) until the second value is reached (e.g. 22:00).

Syntax: <Address><Command> = <Address>AGZ<hh><mm>,<hh><mm>,<aa>

Addressing type: TLR#

LUXMATE type: --

Parameters:

<hh> = 0 to 23 (first switching-off time in hours)
25 = Delete the entry
<mm> = 0 to 59 (first switching-off time in minutes)
<hh> = 0 to 23 (second switching-off time in hours)
25 = Delete the entry
<mm> = 0 to 59 (second switching-off time in minutes)
<aa> = 0 to 59 (time between the repetitions in minutes)

Reaction: --

Example:

>>> AGZ2235
Sets the global switching-off time to 22:35.

Also refer to:

A<a><hh><mm> / Set the room-specific switching-off time / C / page 81
E<e><hh><mm> / Set the room-specific switching-on time / C / page 91
EGZ<hh><mm> / Set the global switching-on time / C / page 92

Error codes: --

BMS level: 3

AUTOM<a>! / Poll a manual intervention automatically / C

You can have a response sent automatically when adjustment values of a room, a group or a device are adjusted manually. If the adjustment value is adjusted for longer than 2 seconds, you automatically receive one response per second.

If sub-types of the main types are adjusted, the response MAN is also sent for the main types. If, for example, an AUTOM<a>! with LUXMATE Type 2 is activated and LUXMATE Type 30 is adjusted, you receive a feedback for LUXMATE Type 2.

If this function is activated for a room, you receive a feedback when the group or an individual LUXMATE output is dimmed. If this function is activated for a group, you also receive a feedback when the room is dimmed.

The LUXMATE BMS interface stores and manages all the activated automatic monitoring functions. The activated automatic monitoring functions also remain during a restart.

This LUXMATE command is not available for the LM-TLR.

Syntax: <Address><Type><Command> = <Address><Type>AUTOM<a>!

Addressing type: [TLR#]R# or [TLR#]R#G#

LUXMATE type: All types and the wildcard (T1)

Parameters:

<a> = Function
1 = Send the command at manual adjustment
0 = Switch off the function

Reaction:

<Address><Type>MANSTART
(directly after the function has been started)
<Address><Type>MAN
(in case of manual adjustment)

Example:

```
>>> R1G2T2AUTOM1!
<<< R1G2T2MANSTART
The automatic function is started.
<<< R1G2T2MAN
An adjustment value is adjusted manually.
```

Also refer to:

AUTO<a>! / Poll a scene automatically / C / page 28
AUTOW<a>! / Poll an adjustment value automatically / C / page 84
MAN / Poll a manual intervention automatically / R / page 99
MANSTART / Poll a manual intervention / R / page 100
S<s>W<w>E<f> / Poll the LUXMATE output individually / R / page 54
S<s>W<w>E<e>f<g>h<i> / Poll the area (sum) / R / page 55
? / Poll the scene, adjustment value and errors / C / page 63

Error codes: NAK1!, NAK2!, NAK5!, NAK6!

BMS level: 2

AUTOW<a>! / Poll an adjustment value automatically / C

This LUXMATE command is used to have a response of a LUXMATE output sent with the current **adjustment value** and errors occurring **automatically**. It is sent as soon as the adjustment value changes or after a defined period.

The LUXMATE BMS interface stores and manages all the activated automatic monitoring functions. The activated automatic monitoring functions also remain during a restart.

This LUXMATE command is not available for the LM-TLR.

Syntax: <Address><Type><Command> = <Address><Type>AUTOW<a>!

Addressing type: [TLR#]R#B#

LUXMATE type: All

Parameters:

<a> = 0 to 3600
 1 = Send a response when the adjustment value is changed
 0 = Switch off the function
 2 to 3600 = A response with the current adjustment value is sent after the specified number of seconds. A response is also sent when the adjustment value changes.

Reaction: <Address><Type>S<s>W<w>E<f>

Example:

```
>>> R1B2T10AUTOW1!
Room 1 Bus Number 2 sends a message at a change.
<<< R1B2T10S4W39E2
LUXMATE output (screen, T10) signals the adjustment value 39, LUXMATE Scene 4 and no longer signals.
```

Also refer to:

AUTO<a>! / Poll a scene automatically / C / page 28
 AUTOM<a>! / Poll a manual intervention automatically / C / page 83
 AUTOW<a>! / Poll an adjustment value automatically / C / page 84
 MAN / Poll a manual intervention automatically / R / page 99
 MANSTART / Poll a manual intervention / R / page 100
 S<s>W<w>E<f> / Poll the LUXMATE output individually / R / page 54
 S<s>W<w>E<e><f><g><h><i> / Poll the area (sum) / R / page 55
 ? / Poll the scene, adjustment value and errors / C / page 63

Error codes: NAK3!, NAK5!, NAK6!

BMS level: 3

BCSTART! / Start the blind automation / C

This LUXMATE command starts the daylight-dependent blind automatic function.

Syntax: <Address><Type><Command> = <Address><Type>BCSTART!

Addressing type: [TLR#]R# or [TLR#]R#G# or [TLR#]R#B#

LUXMATE type: --

Parameters: --

Reaction: --

Example:

>>> R22BCSTART!

Starts the daylight-dependent blind automatic function in Room 22.

Also refer to:

BCSTART! / Start the blind automation / C / page 85

BCSTOP! / Stop the blind automation / C / page 85

Error codes: NAK1!, NAK2!, NAK3!, NAK5!

BMS level: 3

BCSTOP! / Stop the blind automation / C

This LUXMATE command stops the daylight-dependent blind automatic function.

Syntax: <Address><Type><Command> = <Address><Type>BCSTOP!

Addressing type: [TLR#]R# or [TLR#]R#G# or [TLR#]R#B#

LUXMATE type: --

Parameters: --

Reaction: --

Example:

>>> R22BCSTOP!

Stops the daylight-dependent blind automatic function in Room 22.

Also refer to:

BCSTART! / Start the blind automation / C / page 85

BCSTOP! / Stop the blind automation / C / page 85

Error codes: NAK1!, NAK2!, NAK3!, NAK5!

BMS level: 3

BT<t> / Poll the burning duration / R

This is the response to the LUXMATE command T?. This LUXMATE command polls the burning duration since the last reset with the LUXMATE command HR. The PC of the LUXMATE installation logs the burning duration for each luminaire.

The average adjustment value of the luminaire which is switched on by means of the burning-duration percentage and the burning duration.

Adjustment value (in %) = Burning-duration percentage (in %h) / Burning duration (in h)

Syntax: <Address><Type><Response> = <Address><Type>BT<t>

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

If you use wildcards, a response is sent for each LUXMATE output.

If you address R# or R#G#, a summed value is specified.

LUXMATE type:

Enter T2 (luminaires), T30 (direct light) or T31 (indirect light) for the <Type>.

Parameters: <t> = Burning duration in minutes

LUXMATE command: <Address><Type>T?

Example:

```
>>> R1T?
```

```
<<< R1T2BT233
```

Burning duration amounts to 233h

Also refer to:

ENA? / Poll the power consumption / C / page 93

ENA<a> / Poll the power consumption / R / page 94

ENC? / Poll the energy consumption / C / page 95

ENC<c> / Poll the energy consumption / R / page 96

HR / Reset the burning duration management / C / page 99

H? / Poll the burning duration percentage / C / page 97

H<h> / Poll the burning duration percentage / R / page 98

T? / Poll the burning duration / C / page 105

Error codes: --

BMS level: 3

D<dd><mm><yyyy> / Set the date / C

This LUXMATE command is used to set the system date of the BMS-PCs TLR/LRA/server. The system time of the BMS-PCs TLR and LRA is simultaneously the LUXMATE system time. This is visible on LUXMATE operating devices with display.

Syntax: <Command> = D<dd><mm><yyyy>

Addressing type: --

LUXMATE type: --

Parameters:

<dd> = 1 to 31 (day)

<mm> = 1 to 12 (month)

<yyyy> = 1900 to 2099 (year)

Reaction: --

Example:

>>> D13121999

Sets the data to 13th December, 1999.

Also refer to:

D<dd><mm><yyyy> / Set the date / C / page 87

T<hh><mm><ss> / Set the time / C / page 56

TIME? / Poll the data and time / C / page 57

TIME<hh><mm><ss><dd><mm><yyyy> / Poll the date and time / R / page 106

UHR? / Poll the time / C / page 78

UHR<hh><mm> / Poll the time / R / page 79

Error codes: --

BMS level: 2

DEL_ / Delete a LUXMATE name object completely / C

Names are used to combine areas of a building. This allows you to address a collection of LUXMATE addresses ([TLR#]R# or [TLR#]R#G# or [TLR#]R#B#) by means of a name. You use, for example, names which reflect the real building structure. You can use all the ASCII characters for the names (except for control characters and exclamation mark = 22h). The names are set in quotation marks. When you send a LUXMATE command to a combined area, specify the name in the LUXMATE address ("Name"). In case of queries the LUXMATE BMS interface sends a single response for a combined area.

LM-TLR: Any names are possible here. They are stored in the file "NAMELIST.TAB".

LRA: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

LM-SRV: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

This LUXMATE command deletes the name object.

Syntax: <Name><Command> = <Name>DEL_

Addressing type: "Name"

LUXMATE type: --

Parameters: --

Reaction: --

Example:

```
>>> "Corridor"DEL_
The "Corridor" name object is deleted.
```

Also refer to:

ADD_<a> / Add an address to the name object / C / page 27
 DEL_<a> / Delete an address in the LUXMATE name object / C / page 31
 GET_ / Poll addresses of the name object / C / page 39
 ITEM_<a> / Poll the addresses of the name object / R / page 41
 NEW_ / Create a LUXMATE name object / C / page 44
 REN_<n> / Rename the LUXMATE name object / C / page 102

Error codes: NAK11!

BMS level: 2

D%-<p> / Reduce the adjustment value by a percentage / C

This LUXMATE command is used to permanently influence the stored system curve of all the scenes for light. The light adjustment value (static or daylight-dependent) is output in accordance with the stored system curve. The system curve is specified when a LUXMATE scene is stored (refer to PROGS<s>).

This LUXMATE command reduces the light adjustment value by a percentage value of the current light adjustment value. An offset value is added to the set system curve. The percentage value always refers to the set system curve. The change remains valid for all the LUXMATE scenes until the offset value is changed again by means of the LUXMATE command or by means of D%+<p>.

Syntax: <Address><Type><Command> = <Address><Type>D%-<p>

Addressing type: [TLR#]R# or [TLR#]R#G#

LUXMATE type: T2

Parameters: <p> = 0 to 100 (relative value in %)

Reaction: --

Example:

>>> R6D%-4

The output light value is reduced permanently by 4 % of the set light value for Room 6. If the output light value is to be reduced permanently by 30 % of the set light value, a further 26 % has to be added.

>>> R6D%-26

The output light value is reduced permanently by 30 % (4%+26%) of the set light value for Room 6.

Also refer to:

DM<s> / Start the dimming process (minus) / C / page 32

DP<s> / Start the dimming process (plus) / C / page 33

DS / Stop the dimming process / C / page 34

D-<w> / Reduce the adjustment value relatively / C / page 35

D+<w> / Increase the adjustment value relatively / C / page 36

D%+<p> / Increase the adjustment value by a percentage / C / page 90

W<w>! / Set the adjustment value / C / page 62

Error codes: NAK1!, NAK2!, NAK3!, NAK4!, NAK5!, NAK6!

BMS level: 3

D%+<p> / Increase the adjustment value by a percentage / C

This LUXMATE command is used to permanently influence the stored system curve of all the scenes for light. The light adjustment value (static or daylight-dependent) is output in accordance with the stored system curve. The system curve is specified when a LUXMATE scene is stored (refer to PROGS<s>).

This LUXMATE command increases the light adjustment value by a percentage value of the light adjustment value. An offset value is added to the set system curve. The percentage value always refers to the set system curve. The change remains valid for all the LUXMATE scenes until the offset value is changed again by means of the LUXMATE command or by means of D%-<p>.

Syntax: <Address><Type><Command> = <Address><Type>D%+<p>

Addressing type: [TLR#]R# or [TLR#]R#G#

LUXMATE type: T2

Parameters: <p> = 0 to 100 (relative value in %)

Reaction: --

Example:

>>> R3G4D%+3

The output light value is increased permanently by 3 % of the set light value for Group 4 in Room 3. If the output light value is to be increased permanently by 10 % of the set light value, a further 7 % has to be added.

>>> R3G4D%+7

The output light value is increased permanently by 10 % (3 %+7 %) of the set light value for Group 4 in Room 3.

Also refer to:

DM<s> / Start the dimming process (minus) / C / page 32

DP<s> / Start the dimming process (plus) / C / page 33

DS / Stop the dimming process / C / page 34

D-<w> / Reduce the adjustment value relatively / C / page 35

D+<w> / Increase the adjustment value relatively / C / page 36

D%-<p> / Reduce the adjustment value by a percentage / C / page 89

W<w>! / Set the adjustment value / C / page 62

Error codes: NAK1!, NAK2!, NAK3!, NAK4!, NAK5!, NAK6!

BMS level: 3

E<e><hh><mm> / Set the room-specific switching-on time / C

This LUXMATE command sets one of the three switching-on times for a room.

Syntax: <Address><Type><Command> = <Address><Type>E<e><hh><mm>

Addressing type: [TLR#]R# or [TLR#]R#G#

LUXMATE type: --

Parameters:

<e> = 1 to 3 (switching-on time number)
 <hh> = 0 to 23 (switching-on time in hours)
 Greater than 24 = Delete the entry
 <mm> = 0 to 59 (switching-on time in minutes)

Reaction: --

Example:

>>> R1E31035

Sets the third switching-on time in Room 1 to 10:35.

Also refer to:

A<a><hh><mm> / Set the room-specific switching-off time / C / page 81

AGZ<hh><mm>,<hh><mm>,<aa> / Set the global switching-off time / C / page 82

EGZ<hh><mm> / Set the global switching-on time / C / page 92

Error codes: NAK1!, NAK2!, NAK5!

BMS level: 3

EGZ<hh><mm> / Set the global switching-on time / C

This LUXMATE command sets the global switching-off time in the respective TLR or LRA. This global switching-on time applies for the entire building. The switching-on time is set to a specific value (e.g. 10:00).

Syntax: <Address><Command> = <Address>EGZ<hh><mm>

Addressing type: TLR#

LUXMATE type: --

Parameters:

<hh> = 0 to 23 (switching-on time in hours)
Greater than 24 = Delete the entry
<mm> = 0 to 59 (switching-on time in minutes)

Reaction: --

Example:

>>> EGZ1035
Sets the global switching-on time to 10:35.

Also refer to:

A<a><hh><mm> / Set the room-specific switching-off time / C / page 81
AGZ<hh><mm>,<hh><mm>,<aa> / Set the global switching-off time / C / page 82
E<e><hh><mm> / Set the room-specific switching-on time / C / page 91

Error codes: --

BMS level: 3

ENA? / Poll the power consumption / C

This LUXMATE command polls the power consumption. The PC of the LUXMATE installation logs the power consumption for each LUXMATE output with LUXMATE Type 2 (luminaires).

Syntax: <Address><Type><Command> = <Address><Type>ENA?

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

If you use wildcards, a response is sent for each LUXMATE output.

If you address R# or R#G#, a summed value is specified.

LUXMATE type:

Enter T2 (luminaires), T30 (direct light) or T31 (indirect light) for the LUXMATE type.

Parameters: --

Reaction: <Address><Type>ENA<a>

Example:

```
>>> R1ENA?
```

```
<<< R1T2ENA180
```

The power consumption of the luminaires in Room 1 amounts to 180 watt.

Also refer to:

BT<t> / Poll the burning duration / R / page 86

ENA<a> / Poll the power consumption / R / page 94

ENC? / Poll the energy consumption / C / page 95

ENC<c> / Poll the energy consumption / R / page 96

HR / Reset the burning duration management / C / page 99

H? / Poll the burning duration percentage / C / page 97

H<h> / Poll the burning duration percentage / R / page 98

T? / Poll the burning duration / C / page 105

Error codes: NAK1!, NAK2!, NAK3!, NAK5!

BMS level: 3

ENA<a> / Poll the power consumption / R

This is the response to the LUXMATE command ENA?. This LUXMATE command polls the power consumption. The PC of the LUXMATE installation logs the power consumption for each LUXMATE output with LUXMATE Type 2 (luminaires).

Syntax: <Address><Type><Response> = <Address><Type>ENA<a>

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

If you use wildcards, a response is sent for each LUXMATE output.

If you address R# or R#G#, a summed value is specified.

LUXMATE type:

Enter T2 (luminaires), T30 (direct light) or T31 (indirect light) for the LUXMATE type.

Parameters: <a> = Power consumption in watt

LUXMATE command: <Address><Type>ENA?

Example:

```
>>> R1ENA?
```

```
<<< R1T2ENA180
```

The power consumption of the luminaires in Room 1 amounts to 180 watt.

Also refer to:

BT<t> / Poll the burning duration / R / page 86

ENA? / Poll the power consumption / C / page 93

ENC? / Poll the energy consumption / C / page 95

ENC<c> / Poll the energy consumption / R / page 96

HR / Reset the burning duration management / C / page 99

H? / Poll the burning duration percentage / C / page 97

H<h> / Poll the burning duration percentage / R / page 98

T? / Poll the burning duration / C / page 105

Error codes: NAK1!, NAK2!, NAK3!, NAK5!

BMS level: 3

ENC? / Poll the energy consumption / C

This LUXMATE command polls the energy consumption since the last reset with the LUXMATE command HR. The PC of the LUXMATE installation logs the energy consumption for each LUXMATE output with LUXMATE Type 2 (luminaires).

Syntax: <Address><Type><Command> = <Address><Type>ENC?

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

If you use wildcards, a response is sent for each LUXMATE output.

If you address R# or R#G#, a summed value is specified.

LUXMATE type:

Enter T2 (luminaires), T30 (direct light) or T31 (indirect light) for the LUXMATE type.

Parameters: --

Reaction: <Address><Type>ENC<c>

Example:

```
>>> R1ENC?
```

```
<<< R1T2ENC1844345
```

The energy consumption of the luminaires in Room 1 amounts to 1844345 mWh (milliwatt-hours).

Also refer to:

BT<t> / Poll the burning duration / R / page 86

ENA? / Poll the power consumption / C / page 93

ENA<a> / Poll the power consumption / R / page 94

ENC<c> / Poll the energy consumption / R / page 96

HR / Reset the burning duration management / C / page 99

H? / Poll the burning duration percentage / C / page 97

H<h> / Poll the burning duration percentage / R / page 98

T? / Poll the burning duration / C / page 105

Error codes: NAK1!, NAK2!, NAK3!, NAK5!

BMS level: 3

ENC<c> / Poll the energy consumption / R

This is the response to the LUXMATE command ENC?. This LUXMATE command polls the energy consumption since the last reset with the LUXMATE command HR. The PC of the LUXMATE installation logs the energy consumption for each LUXMATE output with LUXMATE Type 2 (luminaires).

Syntax: <Address><Type><Response> = <Address><Type>ENC<c>

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

If you use wildcards, a response is sent for each LUXMATE output.

If you address R# or R#G#, a summed value is specified.

LUXMATE type:

Enter T2 (luminaires), T30 (direct light) or T31 (indirect light) for the LUXMATE type.

Parameters: <c> = Energy consumption in mWh

LUXMATE command: <Address><Type>ENC<c>

Example:

```
>>> R1ENC?
```

```
<<< R1T2ENC1844345
```

The energy consumption of the luminaires in Room 1 amounts to 1844345 mWh (milliwatt-hours).

Also refer to:

BT<t> / Poll the burning duration / R / page 86

ENA? / Poll the power consumption / C / page 93

ENA<a> / Poll the power consumption / R / page 94

ENC? / Poll the energy consumption / C / page 95

HR / Reset the burning duration management / C / page 99

H? / Poll the burning duration percentage / C / page 97

H<h> / Poll the burning duration percentage / R / page 98

T? / Poll the burning duration / C / page 105

Error codes: NAK1!, NAK2!, NAK3!, NAK5!

BMS level: 3

H? / Poll the burning duration percentage / C

This LUXMATE command polls the burning duration percentage since the last reset with the LUXMATE command HR. The PC of the LUXMATE installation logs the burning duration percentage for each LUXMATE output with LUXMATE Type 2 (luminaires).

You can determine the average adjustment value of the lights which are switched on by means of the burning duration percentage and the burning duration.
 Adjustment value (in %) = Burning-duration percentage (in %h) / Burning duration (in h)

Syntax: <Address><Type><Command> = <Address><Type>H?

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

If you use wildcards, a response is sent for each LUXMATE output.

If you address R# or R#G#, a summed value is specified.

LUXMATE type:

Enter T2 (luminaires), T30 (direct light) or T31 (indirect light) for the <Type>.

Parameters: <h> = 0 to 200000000 (burning duration percentage since the reset in %h)

Reaction: <Address><Type>H<h>

Example:

```
>>> R1H?
```

```
<<< R1T2H8459
```

The burning duration percentage amounts to 8459 %h

Also refer to:

BT<t> / Poll the burning duration / R / page 86

ENA? / Poll the power consumption / C / page 93

ENA<a> / Poll the power consumption / R / page 94

ENC? / Poll the energy consumption / C / page 95

ENC<c> / Poll the energy consumption / R / page 96

HR / Reset the burning duration management / C / page 99

H<h> / Poll the burning duration percentage / R / page 98

T? / Poll the burning duration / C / page 105

Error codes: --

BMS level: 3

H<h> / Poll the burning duration percentage / R

This is the response to the LUXMATE command H?. This LUXMATE command polls the burning duration percentage since the last reset with the LUXMATE command HR. The PC of the LUXMATE installation logs the burning duration percentage for each LUXMATE output with LUXMATE Type 2 (luminaires).

You can determine the average adjustment value of the lights which are switched on by means of the burning duration percentage and the burning duration.
 Adjustment value (in %) = Burning-duration percentage (in %h) / Burning duration (in h)

Syntax: <Address><Type><Response> = <Address><Type>H<h>

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

If you use wildcards, a response is sent for each LUXMATE output.

If you address R# or R#G#, a summed value is specified.

LUXMATE type:

Enter T2 (luminaires), T30 (direct light) or T31 (indirect light) for the <Type>.

Parameters: <h> = 0 to 200000000 (burning duration percentage since the reset in %h)

LUXMATE command: <Address><Type>H?

Example:

>>> R1H?

<<< R1T2H8459

The burning duration percentage amounts to 8459 %h

Also refer to:

BT<t> / Poll the burning duration / R / page 86

ENA? / Poll the power consumption / C / page 93

ENA<a> / Poll the power consumption / R / page 94

ENC? / Poll the energy consumption / C / page 95

ENC<c> / Poll the energy consumption / R / page 96

HR / Reset the burning duration management / C / page 99

H? / Poll the burning duration percentage / C / page 97

T? / Poll the burning duration / C / page 105

Error codes: --

BMS level: 3

HR / Reset the burning duration management / C

This LUXMATE command resets all the counters (burning duration, burning duration percentage, energy consumption).

Syntax: <Address><Type><Command> = <Address><Type>HR

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

If you use wildcards, a response is sent for each LUXMATE output.

If you address R# or R#G#, a summed value is specified.

LUXMATE type:

Enter T2 (luminaires), T30 (direct light) or T31 (indirect light) for the <Type>.

Parameters: --

Reaction: --

Example:

```
>>> R1HR
```

Resets the counters in Room 1.

Also refer to:

BT<t> / Poll the burning duration / R / page 86

ENA? / Poll the power consumption / C / page 93

ENA<a> / Poll the power consumption / R / page 94

ENC? / Poll the energy consumption / C / page 95

ENC<c> / Poll the energy consumption / R / page 96

H? / Poll the burning duration percentage / C / page 97

H<h> / Poll the burning duration percentage / R / page 98

T? / Poll the burning duration / C / page 105

Error codes: NAK1!, NAK2!, NAK3!, NAK5!

BMS level: 3

MAN / Poll a manual intervention automatically / R

You can have a response sent automatically when adjustment values of a room, a group or a device are adjusted manually. If the adjustment value is adjusted for longer than 2 seconds, you automatically receive one response per second.

If sub-types of the main types are adjusted, the response MAN is also sent for the main types. If, for example, an AUTOM<a>! with LUXMATE Type 2 is activated and LUXMATE Type 30 is adjusted, you receive a feedback for LUXMATE Type 2.

If this function is activated for a room, you receive a feedback when the group or an individual LUXMATE output is dimmed. If this function is activated for a group, you also receive a feedback when the room is dimmed.

The LUXMATE BMS interface stores and manages all the activated automatic monitoring functions. The activated automatic monitoring functions also remain during a restart.

You receive a LUXMATE response immediately if a user carries out a manual operating intervention (e.g. dimming at an operating device).

This LUXMATE response is not available for the LM-TLR.

Syntax: <Address><Type><Response> = <Address><Type>MAN

Addressing type: [TLR#]R# or [TLR#]R#G#

LUXMATE type: All types and the wildcard (T1)

Parameters: --

LUXMATE command: <Address><Type>AUTOM<a>!

Example:

```
>>> R1G2T2AUTOM1!
<<< R1G2T2MANSTART
The automatic function is started.
<<< R1G2T2MAN
An adjustment value is adjusted manually.
```

Also refer to:

AUTO<a>! / Poll a scene automatically / C / page 28
 AUTOM<a>! / Poll a manual intervention automatically / C / page 83
 AUTOW<a>! / Poll an adjustment value automatically / C / page 84
 MANSTART / Poll a manual intervention / R / page 100
 S<s>W<w>E<f> / Poll the LUXMATE output individually / R / page 54
 S<s>W<w>E<e><f><g><h><i> / Poll the area (sum) / R / page 55
 ? / Poll the scene, adjustment value and errors / C / page 63

Error codes: --

BMS level: 2

MANSTART / Poll a manual intervention / R

You can have a response sent automatically when adjustment values of a room, a group or a device are adjusted manually. If the adjustment value is adjusted for longer than 2 seconds, you automatically receive one response per second.

If sub-types of the main types are adjusted, the response MAN is also sent for the main types. If, for example, an AUTOM<a>! with LUXMATE Type 2 is activated and Type 30 is adjusted, you receive a feedback for LUXMATE Type 2.

If this function is activated for a room, you receive a feedback when the group or an individual LUXMATE output is dimmed. If this function is activated for a group, you also receive a feedback when the room is dimmed.

The LUXMATE BMS interface stores and manages all the activated automatic monitoring functions. The activated automatic monitoring functions also remain during a restart.

You receive this response exactly once, namely when AUTOM<a>! / Poll a manual intervention automatically / C is started.

This LUXMATE response is not available for the LM-TLR.

Syntax: <Address><Type><Response> = <Address><Type>MANSTART

Addressing type: [TLR#]R# or [TLR#]R#G#

LUXMATE type: All types and the wildcard (T1)

Parameters: --

LUXMATE command: <Address><Type>AUTOM<a>!

Example:

>>> R1G2T2AUTOM1!

<<< R1G2T2MANSTART

The automatic function is started.

<<< R1G2T2MAN

An adjustment value is adjusted manually.

Also refer to:

AUTO<a>! / Poll a scene automatically / C / page 28

AUTOM<a>! / Poll a manual intervention automatically / C / page 83

AUTOW<a>! / Poll an adjustment value automatically / C / page 84

MAN / Poll a manual intervention automatically / R / page 99

S<s>W<w>E<f> / Poll the LUXMATE output individually / R / page 54

S<s>W<w>E<e><f><g><h><i> / Poll the area (sum) / R / page 55

? / Poll the scene, adjustment value and errors / C / page 63

Error codes: --

BMS level: 2

REN_<n> / Rename the LUXMATE name object / C

Names are used to combine areas of a building. This allows you to address a collection of LUXMATE addresses ([TLR#]R# or [TLR#]R#G# or [TLR#]R#B#) by means of a name. You use, for example, names which reflect the real building structure. You can use all the ASCII characters for the names (except for control characters and exclamation mark = 22h). The names are set in quotation marks. When you send a LUXMATE command to a combined area, specify the name in the LUXMATE address ("Name"). In case of queries the LUXMATE BMS interface sends a single response for a combined area.

LM-TLR: Any names are possible here. They are stored in the file "NAMELIST.TAB".

LRA: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

LM-SRV: Any names are possible here. They are saved in the file "LMBMSSP.CFG". You can also use areas which were created by using the LUXMATE UserAdministrator software. These areas cannot be changed or deleted. Further details can be obtained from your LUXMATE contact partner.

This LUXMATE command renames the name object.

Syntax: <Name><Command> = <Name>REN_<n>

Addressing type: "Name"

LUXMATE type: --

Parameters: <n> = "New_Name"

Reaction: --

Example:

```
>>> "Corridor"REN_"New_Corridor"
```

The "Corridor" name object is renamed to "New_Corridor".

Also refer to:

ADD_<a> / Add an address to the name object / C / page 27

DEL_ / Delete a LUXMATE name object completely / C / page 88

DEL_<a> / Delete an address in the LUXMATE name object / C / page 31

GET_ / Poll addresses of the name object / C / page 39

ITEM_<a> / Poll the addresses of the name object / R / page 41

NEW_ / Create a LUXMATE name object / C / page 44

Error codes: NAK11!

BMS level: 2

SOL? / Poll the position of the sun / C

This LUXMATE command polls the current position of the sun and the directionality.

Syntax: <Address><Command> = <Address>SOL?

Addressing type: TLR#

LUXMATE type: --

Parameters: --

Reaction: <Address>SOLA<a>G<g>X<x>

Example:

>>> SOL?

<<< SOLA22G45X93

The sun is positioned at Alpha = 22° and Gamma = 45°. The directionality amounts to 93 %.

Also refer to:

SOLA<a>G<g>X<x> / Poll the position of the sun / R / page 104

TLM? / Poll the daylight measuring head / C / page 107

TLMW<w>E<f> / Poll the daylight measuring head / R / page 108

Error codes: --

BMS level: 3

SOLA<a>G<g>X<x> / Poll the position of the sun / R

This is the response to the LUXMATE command SOL?. This LUXMATE command polls the current position of the sun and the directionality.

Syntax: <Address><Response> = <Address>SOLA<a>G<g>X<x>

Addressing type: TLR#

LUXMATE type: --

Parameters:

<a> = 0 to 359 (alpha angle in degrees)

<g> = 0 to 90 (gamma angle in degrees)

<x> = 0 to 100 (directionality in %)

The directionality is a value which indicates the strength of the indirect sun radiation.

0 = Sky completely diffuse

100 = Sky completely clear, at sunshine

LUXMATE command: <Address>SOL?

Example:

>>> SOL?

<<< SOLA22G45X93

The sun is positioned at Alpha = 22° and Gamma = 45°. The directionality amounts to 93 %.

Also refer to:

SOL? / Poll the position of the sun / C / page 103

TLM? / Poll the daylight measuring head / C / page 107

TLMW<w>E<f> / Poll the daylight measuring head / R / page 108

Error codes: --

BMS level: 3

T? / Poll the burning duration / C

This LUXMATE command polls the burning duration since the last reset with the LUXMATE command HR. The PC of the LUXMATE installation logs the burning duration for each LUXMATE output with LUXMATE Type 2 (luminaires).

The average adjustment value of the luminaire which is switched on by means of the burning-duration percentage and the burning duration.

Adjustment value (in %) = Burning-duration percentage (in %h) / Burning duration (in h)

Syntax: <Address><Type><Command> = <Address><Type>T?

Addressing type:

[TLR#]R# or [TLR#]R#G# or [TLR#]R#B# or "Name"

If you use wildcards, a response is sent for each LUXMATE output.

If you address R# or R#G#, a summed value is specified.

LUXMATE type:

Enter T2 (luminaires), T30 (direct light) or T31 (indirect light) for the <Type>.

Parameters: --

Reaction: <Address><Type>BT<t>

Example:

```
>>> R1T?
```

```
<<< R1T2BT233
```

Burning duration amounts to 233 h

Also refer to:

BT<t> / Poll the burning duration / R / page 86

ENA? / Poll the power consumption / C / page 93

ENA<a> / Poll the power consumption / R / page 94

ENC? / Poll the energy consumption / C / page 95

ENC<c> / Poll the energy consumption / R / page 96

HR / Reset the burning duration management / C / page 99

H? / Poll the burning duration percentage / C / page 97

H<h> / Poll the burning duration percentage / R / page 98

Error codes: NAK1!, NAK2!, NAK3!, NAK5!

BMS level: 3

TIME<hh><mm><ss><dd><mm><yyyy> / Poll the date and time / R

This is the response to the LUXMATE command TIME?. The system date and time of the TLR/LRA/server are polled with the LUXMATE command.
The LUXMATE command is implemented as from Version 2.02.

Syntax: <Response> = TIME<hh><mm><ss><dd><mm><yyyy>

Addressing type: --

LUXMATE type: --

Parameters:

<hh> = 00 to 23 (hours)
<mm> = 00 to 59 (minutes)
<ss> = 00 to 59 (seconds)
<dd> = 01 to 31 (days)
<mm> = 01 to 12 (months)
<yyyy> = 1900 to 2099 (years)

LUXMATE command: TIME?

Example:

```
>>> TIME?  
<<< TIME09302530111999  
System time and date are set to 09:30:25 on 30.11.1999.
```

Also refer to:

D<dd><mm><yyyy> / Set the date / C / page 87
T<hh><mm><ss> / Set the time / C / page 56
TIME? / Poll the data and time / C / page 57
UHR? / Poll the time / C / page 78
UHR<hh><mm> / Poll the time / R / page 79

Error codes: --

BMS level: 2

TLM? / Poll the daylight measuring head / C

This LUXMATE command polls the values of the daylight measuring head (LM-TLM).

Syntax: <Address><Type><Command> = <Address><Type>TLM?

Addressing type:

[TLR#]R#B#

The room number is not evaluated.

LUXMATE type: --

Parameters: --

Reaction: <Address><Type>TLMW<w>E<e>

Example:

>>> R0B6TLM?

<<< R0B6TLMW32000E0

Sensor 6 of the LM-TLM signals the value 32000 and no errors.

Also refer to:

SOL? / Poll the position of the sun / C / page 103

SOLA<a>G<g>X<x> / Poll the position of the sun / R / page 104

TLMW<w>E<f> / Poll the daylight measuring head / R / page 108

Error codes: NAK3!

BMS level: 3

TLMW<w>E<f> / Poll the daylight measuring head / R

This is the response to the LUXMATE command TLM?. This LUXMATE command polls the values of the daylight measuring head (LM-TLM).

Syntax: <Address><Type><Response> = <Address><Type>TLMW<w>E<f>

Addressing type:

[TLR#]R#B#

The room number is not evaluated.

LUXMATE type: --**Parameters:**

<w> = 0 to 41000 (sensor value of LM-TLM)

<f> = 0 to 3 (error code)

0 = No error

1 = LUXMATE output signals error(s)

2 = LUXMATE output does not signal

3 = 1 and 2 simultaneously

LUXMATE command: <Address><Type>TLM?

Example:

>>> R0B6TLM?

<<< R0B6TLMW32000E0

Sensor 6 of the LM-TLM signals the value 32000 and no errors.

Also refer to:

SOL? / Poll the position of the sun / C / page 103

SOLA<a>G<g>X<x> / Poll the position of the sun / R / page 104

TLM? / Poll the daylight measuring head / C / page 107

Error codes: --

BMS level: 3

6 Licensing

The describing part of this chapter contains information on

- Licensing

The following objectives can be achieved by using the information from the part of this chapter describing the actions required:

- Ordering and activating licenses

6.1 Licensing

The LUXMATE BMS interface for the server LM-SRV, the LUXMATE Room Automation Computer (LRA processor) and the daylight processor LM-TLR has to be licensed.

For the detailed license regulations please refer to the "End User License Agreement for LUXMATE software products", which has been enclosed in the annex to this documentation.

Your LUXMATE software encompasses various functions. In order to use these you have to purchase one or more licenses. The licenses are obtained in the context of individual products from your contract partner.

Type of licensing

- With license computer: You carry out the licensing for a central license computer in the network. Licenses on the license computer can be used at every workplace in the network.
- Local computer: You license a product for a local computer. The license is only available on this computer.

Structure of the > Licenses < window

Licensing is carried out in the > Licenses < window. The > Licenses < window contains:

- > About < tab card: This provides information on the state of the licenses and the licensees.
- > Licenses < tab card: The license order is prepared here. The dialog box supports you during the selection by providing you with a list of possible products. The correct article number and further ordering details are generated automatically.
- > Activate licenses < tab card: Here you enter the license number and activate the functions of your application.

6.2 Ordering and activating licenses

Opening the > Licenses < window

1. Start the software.
2. Call up the menu item > Licenses < from the menu > ? < .
 - The > Licenses < window is displayed.

Viewing the state of the licenses

- The > Licenses < window is open.
1. Select the > About < tab card.
 2. Click on the > Licenses < command button.
 - The list of the existing licenses is displayed.

You require the following ordering details for a license order. These are all stored in the ordering file.

- Reference number of the computer
- Name of the LUXMATE installation or of the building and of your company
- Name of the product and Version Number
- Article Number

i The license order contains the reference number of the computer for which you carry out licensing. You must therefore carry out both licensing steps (ordering and activating the license) for the same computer.

Ordering the license

You select a product and order the corresponding license from your contract partner.

- The > Licenses < window is open.
1. Select the > Order license < tab card.
 2. Enter the data and select the product.
 3. Click on the > Order data < command button and call up the > Save order data < menu item.
 4. Save the ordering data in a file and path of your choice.
LUXMATE time control
 5. In order to select further products repeat the Steps 2 to 4.
 - Further ordering details are appended to the existing ordering file.
 6. In order to view the order data, click on the > Order data < command button and call up the > Display order data < menu item.
 - The last ordering file which was stored is opened.
 7. In order to delete the order data of the selected products click on the > Order data < command button and call up the > Delete order data < menu item.
 - The ordering details are deleted from the ordering file.
 8. Confirm with > OK < .
 - The > License order < message window is displayed.
 9. Confirm with > OK < .
 10. Send the order data to your contract partner.

Activating the license

You obtain a license certificate with the license number from your contract partner. This allows you to activate the desired functions of your application.

LUXMATE time control

— The > Licenses < window is open.

1. Select the > Activate license < tab card.
2. Select the desired computer.
3. Enter the license number and confirm it with > Activate < .

? The > Activate license < message window is displayed.
The selected computer or license number is incorrect.
▶ Confirm with > OK < and repeat Steps 2 and 3.

4. Confirm with > OK < .
= The license for the selected computer is enabled.

7 Programming

The following objectives can be satisfied using the information from this chapter:

- Calling up a scene
- Setting units or groups temporarily
- Storing a scene
- Setting values of the LUXMATE installation or LUXMATE BMS interface
- Polling the adjustment values once
- Polling once with wildcards
- Polling with automatic status responses
- Polling the sensor values
- Polling values of the LUXMATE installation or LUXMATE BMS interface
- Setting the concentration-point operation (air-conditioning)
- Linking the air-conditioning control (external system) to LUXMATE

7.1 Calling up a scene

Calling up a group scene at several field busses

Action objective:

LUXMATE Scene 2 is to be called up for Group 3 of Room 5 in the area of Field Bus 8 in a LUXMATE installation with several LRAs, LM-TLRs or an LM-SRV.

The message for the action objective is:

```
<STX>TLR8R5G3T1S2!<ETX>
```

Calling up a room scene

Action objective:

LUXMATE Scene 5 is to be called up in Room 12 in a LUXMATE installation with an LRA, LM-TLR or an LM-SRV with a field bus.

The message for the action objective is:

```
<STX>TLR1R12T1S5!<ETX>
```

The address section TLR# should always be specified in order to ensure compatibility to other LUXMATE BMS interfaces.

Calling up a group scene

Action objective:

LUXMATE Scene 0 is to be called up in Group 3 of Room 24 in a LUXMATE installation with an LM-SI03 without LRA-1500(x) or LM-TLR.

The message for the action objective is:

```
<STX>TLR1R24G3T1S0!<ETX>
```

The address section TLR# must always be specified in order to ensure compatibility to other LUXMATE BMS interfaces.

7.2 Setting units or groups temporarily

Setting the absolute value for a group

Action objective:

The luminaires (Type 2) of Group 9 of Room 11 in the area of Field Bus 4 are to be set to the adjusting value 78 in a LUXMATE installation with several LM-LRAs or LM-TLR(L)s and an LM-SRV.

The message for the action objective is:

```
<STX>TLR4R11G9T2W78!<ETX>
```

LUXMATE Type 2 has to be specified in order to ensure that only the luminaires of this group are set. This ensures that the LUXMATE outputs of a different type are not also set to this adjusting value.

This method is used in particular when the area of the operating site cannot be seen and the set value is known and up-to-date at the time the message is sent.

Setting the absolute value for an individual LUXMATE output

Action objective:

LUXMATE Output 91 with the LUXMATE Type 3 (blind) in LUXMATE Group 90 of LUXMATE Room 35 in the area of LUXMATE Field Bus 2 is to be traveled to the adjusting value 157 in a LUXMATE installation with several LM-LRAs or LM-TLR(L)s and an LM-SRV.

The message for the action objective is:

```
<STX>TLR2R35B91T3W157!<ETX>
```

The concrete LUXMATE type of the LUXMATE output has to be specified (in the example this is the LUXMATE Type 3) in order to ensure that no other LUXMATE types are adjusted.

Dimming luminaires with increments

Action objective:

The luminaires (Type 2) of Room 1 in the area of Field Bus 2 are to be dimmed in a LUXMATE installation with several LM-LRAs or LM-TLR(L)s and an LM-SRV. The dimming steps are specified by the external system, with 8 increments per step in an interval of 200 ms.

The messages for this action objective are:

Dimming up:

<STX>TLR2R1T2D+8<ETX>

Interval of 200 ms is specified or calculated by the external system.

<STX>TLR2R1T2D+8<ETX>

Dimming down:

<STX>TLR2R1T2D-8<ETX>

Interval of 200 ms is specified or calculated by the external system.

<STX>TLR2R1T2D-8<ETX>

This sequence is repeated until the desired adjusting value has been reached. The advantage of this dimming method is that the external system can define the increment and the interval by itself.

LUXMATE Type 2 has to be specified in order to ensure that only all the luminaires of this room are dimmed. This ensures that the LUXMATE outputs of a different type are not also adjusted.

This method is used if the current adjusting value is not relevant for this process or if adjustment is to be carried out relative to the current value. For example, at a touch panel from which the area to be adjusted can be viewed.

Dimming luminaires automatically

Action objective:

The luminaires (Type 2) of Group 5 in Room 8 are to be dimmed in a LUXMATE installation with LM-SI03 and an LRA-1500(x) or LM-TLR(L). The dimming steps are specified by the LUXMATE BMS interface.

The messages for this action objective are:

Dimming up:

<STX>TLR1R8G5T2DP<ETX>

(starting the dimming process)

Time interval t of the messages is specified or calculated by the external system.

<STX>TLR1R8G5T2DS<ETX>

(stopping the dimming process)

Dimming down:

<STX>TLR1R8G5T2DM<ETX>

(starting the dimming process)

Time interval t of the messages is specified or calculated by the external system.

<STX>TLR1R8G5T2DS<ETX>

(stopping the dimming process)

This dimming method offers the advantage that the calculating capacity for the dimming process is taken over by the LUXMATE BMS interface. LUXMATE Type 2 has to be specified in order to ensure that only all the luminaires of this group are dimmed. This ensures that the LUXMATE outputs of a different type are not also adjusted.

This method is used if the current adjusting value is not relevant for this process or if adjustment is to be carried out relative to the current value. For example, at a touch panel from which the area to be adjusted can be viewed.

Notes:

The dimming parameters of the LUXMATE BMS interface (dimming increment and dimming delay time) for the commands DP and DM can be adjusted by means of the LUXMATE command SP_<p><w>!.

Example:

The light can be dimmed by means of the operating device of the external system (e.g. touch panel). The light is adjusted while the corresponding key or command button is pressed. When the button or command button is pressed, the dimming process is started by means of the LUXMATE command DP or DM. When the button is released, the dimming process is stopped by means of the LUXMATE command DS.

Traveling the blinds

Action objective:

The blinds (Type 3) of Group 92 in Room 70 are to be traveled in a LUXMATE installation with an LRA-1500(x) or LM-TLR.

The messages for this action objective are:

Travel to the lower end position:

```
<STX>TLR1R70G92T3W255!<ETX>
```

(blind travels towards the end position)

Time interval of the messages is specified or calculated by the external system.

```
<STX>TLR1R70G92T3D+1<ETX>
```

(stops the blind in the current position)

Travel to the upper end position:

```
<STX>TLR1R70G92T3W0!<ETX>
```

(blind travels towards the end position)

Time interval of the messages is specified or calculated by the external system.

```
<STX>TLR1R70G92T3D+1<ETX>
```

(stops the blind in the current position)

This method allows vibration-free traveling of the blinds. LUXMATE Type 3 has to be specified in order to ensure that only all the blinds of this group are traveled. This ensures that the LUXMATE outputs of a different type are not also adjusted.

This method is used if the current adjusting value is not relevant for this process or if adjustment is to be carried out relative to the current value. For example, at a touch panel from which the area to be adjusted can be viewed.

Setting an air-conditioner shift

Action objective:

The **setpoint temperature** for Room 5 is to be lowered by -1.5°C in a LUXMATE installation with an LRA-1500(x) or LM-TLR.

The message for the action objective is:

```
<STX>TLR1R5T11W-1.5!<ETX>
```

7.3 Storing a scene

Action objective:

The current room situation of Room 35 is to be stored as LUXMATE Scene 10 in an LUXMATE installation with an LM-SI03. This action is to be carried out irrespective of whether the current setting of the room situation was initiated by the external system or by the LUXMATE installation.

The message for the action objective is:

<STX>TLR1R35PROGS10<ETX>

The possible responses are listed in the command description PROGS<s>.

The address section TLR# should always be specified in order to ensure compatibility to other LUXMATE BMS interfaces. The external system is able to store the current settings under the current LUXMATE scene by using the value 99 as the scene number. It is nevertheless advisable to always specify the desired LUXMATE setting when programming.

7.4 Setting values of the LUXMATE installation or LUXMATE BMS interface

Setting the time and date

Action objective:

The date and time are to be set by the external system in a LUXMATE installation with an LM-SRV. The current time is 23:55:30. The current data is 18.12.2001.

The messages for this action objective are:

<STX>T235530<ETX>

(setting the time)

<STX>D18122001<ETX>

(setting the date)

Setting the system parameters of the LUXMATE BMS interface

Action objective:

The system parameters of the LUXMATE BMS interface are to be adjusted for the commands DP and DM in a LUXMATE installation with an LRA. The dimming increment is to be set to 5 increments and the dimming delay time is to be set to 300 ms.

The messages for this action objective are:

<STX>SP_DINC5!<ETX>

(setting an increment)

<STX>SP_DDT300!<ETX>

(setting the delay time)

7.5 Polling the adjustment values once

Adjustment values can be polled by several means:

?:

Is suitable for polling LUXMATE outputs at a moment (regular or irregular) determined by the external system.

AUTO<a>!:

Is particularly suitable for being informed of scene changes (event-specific). The current LUXMATE scene is sent to the external system in the response. The external system can react correspondingly when a change arrives. For example, the current LUXMATE scene can be displayed.

AUTOW<a>!:

Is particularly suitable for being informed of adjustment-value changes (event-specific). The current adjustment value is sent to the external system in the response. The external system can react correspondingly when a change arrives. For example, the current adjustment value can be displayed.

AUTOM<a>!:

Is particularly suitable for being informed of manual interventions (event-specific). The external system can react correspondingly when a change arrives. For example, the current adjustment value can be polled.

You can also use a mixed form of the commands.

General information on the commands:

The amount of data increases as the number of LUXMATE addresses to be polled increases. In particular when the responses are to be sent event-specifically and at regular intervals. The amount of data naturally also increases if the regular interval is selected comparatively small. A large amount of data is particularly critical at a small data throughput (for example, when connecting via the serial interface). In case of large data quantities the TCP/IP connection should be used. Greater amounts of data require higher computer capacities in the external system and the respective LRA or SRV which contains the LUXMATE BMS interface. These considerations have to be included in the planning phase.

Polling a LUXMATE output with several LUXMATE types once

Action objective:

In a LUXMATE installation with an LM-SRV the external system is to poll the status of the LUXMATE output with the LUXMATE address 12 (luminaire, LM-BLS) in Group 6 of Room 4 in the area of Field Bus 6 at a specific moment.

The message for the action objective is:

```
<STX>TLR6R4B12T1?<ETX>
```

The response can for example be:

```
<STX>TLR6R4G6B12T2S2W98E0<ETX>
<STX>TLR6R4G6B12T30S2W56E0<ETX>
<STX>TLR6R4G6B12T31S2W140E0<ETX>
```

Interpretation of the response:

The LUXMATE output is assigned to Group 6. It is operating free of faults and errors. At present LUXMATE Scene 2 is active. The LUXMATE output manages several LUXMATE types. LUXMATE Type 2 (the main type) has the adjustment value 98. Sub-type 30 signals the adjustment values 56. Sub-type 31 signals the adjustment values 140.

This method provides exactly one response reaction to the query which consists of several responses. By polling with LUXMATE Type 1 it is therefore possible to poll all the types (main and sub-types) of the LUXMATE output.

Polling a climate shift in installations with LUXMATE air-conditioners once**Action objective:**

In a LUXMATE installation with an LM-SRV the external system is to poll the temperature shift of the climate output with the LUXMATE address 60 in Group 1 of Room 20 in the area of Field Bus 8 at a specific moment. The LUXMATE installation contains LUXMATE air-conditioners.

The message for the action objective is:

```
<STX>TLR8R20B60T11?<ETX>
```

The response can for example be:

```
<STX>TLR8R20G1B60T11S7W-0.5E0<ETX>
```

Interpretation of the response:

The LUXMATE output is assigned to Group 1. It is operating free of faults and errors. At present LUXMATE Scene 7 is active.

The adjustment value of the temperature shift is presently set to -0.5. The setpoint temperature was temporarily adjusted manually by -0.5 °C or is set permanently to this value with the LUXMATE Scene 7.

Polling a climate shift in installations without LUXMATE air-conditioners once**Action objective:**

In a LUXMATE installation with an LM-SRV and several LRA-1500(x)s or LM-TLR(L)s the external system is to poll the temperature shift for Group 3 in Room 18 in the area of Field Bus 9 at a specific moment. The LUXMATE installation does not contain any LUXMATE air-conditioners.

The message for the action objective is:

```
<STX>TLR9R18B103T11?<ETX>
```

The response can for example be:

```
<STX>TLR9R18G3B103T11S2W-2.5E0<ETX>
```

Interpretation of the response:

LUXMATE Type 11 (temperature shift) of Group 3 is operating free of faults and errors. At present LUXMATE Scene 2 is active. The adjustment value of the temperature shift is presently set to -2.5. The setpoint temperature was temporarily adjusted manually by -2.5 °C.

Notes:

Since the LUXMATE installation operates without LUXMATE air-conditioners and since the external system requires the information of the temperature shift, the LUXMATE installation simulates the LUXMATE air-conditioners. These simulated LUXMATE air conditioners store the adjustment value which the user has set at the operating device. Only the LM-TLR and the LRA-1500(x) with LUXMATE-BMS interface simulate the air-conditioners. The LUXMATE operating devices represent areas. They can be addressed with a room or group address. The LUXMATE addresses of the simulated air-conditioners are orientated to the LUXMATE address of the operating device.

Query when the operating device for adjusting the temperature shift is addressed as a room device (Group 0):

The room number used corresponds to the real room number.

The Group Number 90 is fixed.

The LUXMATE Address 101 is fixed.

Example with Room 5:

The LUXMATE address for the simulated LUXMATE output is:

R5G90B101

The query which is used when the operating device for adjusting the temperature shift is addressed as a group device:

The room number used corresponds to the real room number.

The group number used corresponds to the real group number.

The LUXMATE address used is 100 + the real group number.

Example with Group 23 in Room 9:

The LUXMATE address for the simulated LUXMATE output is:

R9G23B123

In order to obtain detailed information on the LUXMATE installation, please contact the corresponding LUXMATE contact person. This person can provide exact information on the installation situation.

Polling the ventilator position in installations without LUXMATE air-conditioners is carried out in accordance with the same scheme.

Polling the room status once

Action objective:

In a LUXMATE installation with an LRA-1500(x) the external system is to poll the status of Room 3 in the area of Field Bus 2 at a specific moment.

The message for the action objective is:

<STX>TLR2R3T1?<ETX>

The response can for example be:

```
<STX>TLR2R3T2SxWxE03000<ETX>
<STX>TLR2R3T3S3WxE00000<ETX>
<STX>TLR2R3T4S2WxE00000<ETX>
<STX>TLR2R3T11S3WxE00000<ETX>
etc.
```

Interpretation of the response:

Several LUXMATE outputs with different LUXMATE types are assigned to this room. The LUXMATE outputs with LUXMATE Type 2 have different scenes and adjustment values. At least one LUXMATE output signals an error or fault and now no longer signals at all. The LUXMATE outputs with LUXMATE Type 3 have different scenes and adjustment values, there are no faults or errors. The LUXMATE outputs with LUXMATE Type 4 have different scenes and adjustment values, there are no faults or errors. The LUXMATE outputs with LUXMATE Type 11 have different scenes and adjustment values, there are no faults or errors. This method provides exactly one response reaction to the query. By polling with LUXMATE Type 1 it is possible to poll all the types (main and sub-types) of the LUXMATE output.

Polling the group status once

Action objective:

In a LUXMATE installation with an LM-SRV the external system is to poll the status for LUXMATE Type 2 in Group 3 of Room 7 in the area of Field Bus 10 at a specific moment.

The message for the action objective is:

```
<STX>TLR10R7G3T2?<ETX>
```

The response can for example be:

```
<STX>TLR10R7G3T2S1WxE00000<ETX>
```

Interpretation of the response:

LUXMATE Type 2 in Group 3 does not signal any faults or errors at present. All the LUXMATE outputs have LUXMATE Scene 1 with different adjustment values. This method provides exactly one response reaction to the query. By polling with LUXMATE Type 1 it is possible to poll all the types (main and sub-types) of the LUXMATE output.

7.6 Polling once with wildcards

The polling strategy of the external system to be recommended depends on its application.

The following wildcards can be used:

TLR0Wildcard for the field bus number
R0Wildcard for the room number
G0Wildcard for the group number
B0 Wildcard for the address number
T1 Wildcard for the type

General information on wildcards:

The more LUXMATE addresses are assigned to the area polled with wildcards, the greater the amount of data to be received. A large amount of data is particularly critical at a small data throughput (when connecting via the serial interface). In case of large data quantities the TCP/IP connection should be used. Greater amounts of data require higher computer capacities in the external system and the LUXMATE device or PC with LUXMATE BMS interface. These considerations have to be included in the planning phase.

Polling all the light outputs of a field bus once

Action objective:

In a LUXMATE installation with an LM-SRV the external system is to poll the status of all the LUXMATE outputs of LUXMATE Type 2 (luminaires) in the area of Field Bus 5 at a specific moment.

The message for the action objective is:

```
<STX>TLR5R0B0T2?<ETX>
```

The response can for example be:

```
<STX>TLR5R1G1B1T2S2W98E0<ETX>
<STX>TLR5R1G1B2T2S2W98E0<ETX>
<STX>TLR5R1G2B3T2S3W64E0<ETX>
<STX>TLR5R1G2B4T2S3W64E1<ETX>
<STX>TLR5R3G5B10T2S4W9E0<ETX>
<STX>TLR5R3G5B20T2S4W9E2<ETX>
<STX>TLR5R3G8B30T2S3W6E0<ETX>
<STX>TLR5R3G8B40T2S3W6E3<ETX>
```

Interpretation of the response:

The adjustment values of the LUXMATE outputs are specified. There are two rooms with two groups each in the area of Field Bus 5. The groups each contain two LUXMATE outputs. LUXMATE Type T2 (light) is assigned to these LUXMATE outputs.

This method provides exactly one response reaction to the query. Only the corresponding LUXMATE outputs are addressed by polling with the LUXMATE Type 2 (light). Wildcard B0 addresses all the LUXMATE outputs in a room. Wildcard R0 addresses all the rooms.

Polling all the LUXMATE outputs of a room once

Action objective:

In a LUXMATE installation with an LRA-1500(x) or LM-TLR the external system is to poll the status of all the LUXMATE outputs of Room 9 at a specific moment.

The message for the action objective is:

```
<STX>TLR1R9B0T1?<ETX>
```


The response can for example be:

```
<STX>TLR1R9G1B1T2S2W98E0<ETX>
<STX>TLR1R9G1B2T2S2W98E0<ETX>
<STX>TLR1R9G2B3T2S3W64E0<ETX>
<STX>TLR1R9G2B4T2S3W64E0<ETX>
<STX>TLR1R9G3B1T2S1W10E0<ETX>
<STX>TLR1R9G3B12T2S1W10E0<ETX>
<STX>TLR1R9G90B91T3S4W255E0<ETX>
<STX>TLR1R9G90B91T3S4W255E0<ETX>
```

Interpretation of the response:

The adjustment values of the LUXMATE outputs are specified. 4 groups exist in Room 9. Each group contains 2 LUXMATE outputs each. The room contains LUXMATE outputs to which the LUXMATE types light, blind and window are assigned.

This method provides exactly one response reaction to the query. All the LUXMATE outputs and their LUXMATE types are addressed by polling with LUXMATE Type 1. Wildcard B0 addresses all the LUXMATE outputs in a room.

Polling several room statuses of several field busses once

Action objective:

In a LUXMATE installation with an LM-SRV the external system is to poll the status for LUXMATE Type 2 (luminaires) in every Room 3 of all the field busses at a specific moment.

The message for the action objective is:

```
<STX>TLR0R3T2?<ETX>
```

The response can for example be:

```
<STX>TLR1R3T2S2WxE00000<ETX>
<STX>TLR2R3T2S1W66E00000<ETX>
<STX>TLR3R3T2S4WxE00000<ETX>
<STX>TLR4R3T2S5W255E00000<ETX>
<STX>TLR5R3T2S0W0E00000<ETX>
```

Interpretation of the response:

The adjustment values of the LUXMATE outputs are specified. 5 field busses contain Room 3. The rooms contain the LUXMATE outputs with the LUXMATE Type 2 (light).

This method provides exactly one response reaction to the query. Only the LUXMATE outputs to which this LUXMATE Type 2 (light) is assigned are addressed by polling with this LUXMATE type. Wildcard TLR0 addresses all the field busses.

Polling several group statuses of a room once

Action objective:

In a LUXMATE installation with an LRA-1500(x) or LM-TLR the external system is to poll the status of LUXMATE Type 3 (blinds) of all the groups of Room 2 at a specific moment.

The message for the action objective is:

```
<STX>TLR1R2G0T3?<ETX>
```

The response can for example be:

```
<STX>TLR1R2G10T3S2WxE00000<ETX>
<STX>TLR1R2G20T3S1W15E00000<ETX>
<STX>TLR1R2G30T3S3WxE00000<ETX>
<STX>TLR1R2G40T3S2W15E00000<ETX>
```

Interpretation of the response:

The adjustment values are specified for every group. 4 groups in Room 2 contain LUXMATE outputs to which LUXMATE Type 3 (blinds) is assigned.

This method provides exactly one response reaction to the query. Only the LUXMATE outputs to which the LUXMATE Type 3 (blinds) is assigned are addressed by polling with the LUXMATE Type 3 (blinds). Wildcard G0 addresses all the groups.

7.7 Polling with automatic status responses

Adjustment values can be polled by several means:

?:

Is suitable for polling LUXMATE outputs at a moment (regular or irregular) determined by the external system.

AUTO<a>!:

Is particularly suitable for being informed of scene changes (event-specific). The current LUXMATE scene is sent to the external system in the response. The external system can react correspondingly when a change arrives. For example, the current LUXMATE scene can be displayed.

AUTOW<a>!:

Is particularly suitable for being informed of adjustment-value changes (event-specific). The current adjustment value is sent to the external system in the response. The external system can react correspondingly when a change arrives. For example, the current adjustment value can be displayed.

AUTOM<a>!:

Is particularly suitable for being informed of manual interventions (event-specific). The external system can react correspondingly when a change arrives. For example, the current adjustment value can be polled.

You can also use a mixed form of the commands.

General information on the commands:

The amount of data increases as the number of LUXMATE addresses to be polled increases. In particular when the responses are to be sent event-specifically and at regular intervals. The amount of data naturally also increases if the regular interval is selected comparatively small. A large amount of data is particularly critical at a small data throughput (for example, when connecting via the serial interface). In case of large data quantities the TCP/IP connection should be used. Greater amounts of data require higher computer capacities in the external system and the respective LRA or SRV which contains the LUXMATE BMS interface. These considerations have to be included in the planning phase.

Activating automatic status responses for a group

Action objective:

In a LUXMATE installation with an LRA-1500(x) or LM-TLR the external system is to receive the status for LUXMATE Type 2 in Group 9 of Room 6 at every scene change.

The message for the action objective is:

```
<STX>R6G9T2AUTO1!<ETX>
```

The response can for example be:

```
<STX>R6G9T2S1W100E00000<ETX>
```

After a scene change on LUXMATE Scene 3 a further response could be:

```
<STX>R6G9T2S3WxE00000<ETX>
```

Interpretation of the response:

LUXMATE Type 2 in Group 9 does not signal any faults or errors at present. All the LUXMATE outputs have LUXMATE Scene 1 with the same adjustment value of 100.

After the scene change:

LUXMATE Type 2 in Group 9 does not signal any faults or errors at present. All the LUXMATE outputs have LUXMATE Scene 3 with different adjustment values.

This method provides several response reactions to the query.

Activating automatic status responses for a room

Action objective:

In a LUXMATE installation with an LM-SRV the external system is to receive the status of Room 6 in the area of Field Bus 5 whenever the scene changes.

The message for the action objective is:

```
<STX>TLR5R6T1AUTO60!<ETX>
```

The response can for example be:

```
<STX>TLR5R6T2S2WxE03000<ETX>
```

After a scene change on LUXMATE Scene 3 a further response could be:

```
<STX>TLR5R6T2S3W30E03000<ETX>
```

Interpretation of the response:

Room 6 contains only LUXMATE outputs to which LUXMATE Type 2 is assigned. At least one LUXMATE output in this room signals an error or fault. Afterwards it no longer signals. At present LUXMATE Scene 2 is active. The adjustment values of the LUXMATE outputs are different.

After the scene change:

Room 6 contains only LUXMATE outputs to which LUXMATE Type 2 is assigned. At least one LUXMATE output in this room signals an error or fault. Afterwards it no longer signals. At present LUXMATE Scene 3 is active. The adjustment value of all the LUXMATE outputs is 30.

This method provides several response reactions to the query. A further response follows every 60 seconds.

De-activating automatic status responses

Action objective:

In a LUXMATE installation with an LM-SRV the external system is to de-activate the automatic LUXMATE response for Room 6 in the area of Field Bus 5.

The message for the action objective is:

<STX>TLR5R6T1AUTO0!<ETX>

Using the LUXMATE command AUTOM<a>!

Action objective:

In a LUXMATE installation with an LM-SRV the external system is to be informed about a manual intervention. In Group 4 in Room 18 in the area of Field Bus 9 dimming is carried out or the adjustment value is set. The external system receives a corresponding response at this manual intervention. The current adjustment values of the LUXMATE outputs in Group 4 are to be polled afterwards.

The message for the action objective is:

<STX>TLR9R9G4T2AUTOM1!<ETX>

The first response is:

<STX> TLR9R9G4T2MANSTART<ETX>

(immediate response after activation of the function)

Interpretation of the response:

The external system is only informed about manual interventions in the group.

The second response is:

<STX>TLR9R9G4T2MAN<ETX>

(response is repeated every second until dimming has been carried out or the adjustment values have been adjusted in the specified group).

Interpretation of the response:

The external system is informed about **one** manual intervention in the group. The manual intervention is completed if no further response to a manual intervention arrives within one second. The LUXMATE command AUTOM<a>! in connection with the LUXMATE command ? are suitable for polling the changed areas specifically after a manual intervention.

7.8 Polling the sensor values

Polling sensor values of air-conditioners

Action objective:

In a LUXMATE installation with an LM-SRV the external system is to poll the status of a sensor (room temperature, LUXMATE Type 35) with the LUXMATE address 60 in Room 7 in the area of Field Bus 3 at a specific moment.

The message for the action objective is:

<STX>TLR3R7B60T35I?<ETX>

The response can for example be:

```
<STX>TLR3R7I60T35D22.60E0<ETX>
```

Interpretation of the response:

The sensor input signals a room temperature (Type 35) of 22.6°C. The sensor is currently functioning free of errors or faults.

Polling the sensor value of the internal light sensor

Action objective:

In a LUXMATE installation with an LRA-1500x the status of the internal light sensor with the LUXMATE address 45 (173) in Room 67 in the area of Field Bus 2 is to be polled.

The message for the action objective is:

```
<STX>TLR2R67B173T2I?<ETX>
```

The response can for example be:

```
<STX>TLR2R67I173T2D23E0<ETX>
```

Interpretation of the response:

The internal light sensor currently signals the value 23. The sensor input is currently functioning free of errors or faults.

The LUXMATE addresses of sensors to be polled begin at the LUXMATE address 129 and thus lie outside the address range usual in LUXMATE. Values of 1 to 99 are used when assigning these LUXMATE addresses. In order for the external system to poll the state of a sensor input, the value of 128 has to be added to the assigned LUXMATE address, e.g. B1. This sensor input can be addressed as a LUXMATE address via the value 173.

Polling the sensor value of a wind or rain monitor

Action objective:

In a LUXMATE installation with an LRA-1500(x) the status of a wind or rain monitor with the LUXMATE address 1 (129) in Room 98 in the area of Field Bus 3 is to be polled.

The message for the action objective is:

```
<STX>TLR3R98B129T1I?<ETX>
```

The response can for example be:

```
<STX>TLR3R98I129T2D0E0<ETX>
```

Interpretation of the response:

The wind or rain monitor currently signals the value 0. There is no wind or rain alarm. The sensor input is currently functioning free of errors or faults.

These sensor inputs are bus-addressed switching inputs which makes polling of the switching position possible. The LUXMATE addresses of such bus-addressed switching inputs begin at the LUXMATE address 129 and thus lie outside the address range usual in LUXMATE. Values of 1 to 99 are used when assigning these LUXMATE addresses. In order for the external system to poll the state of a sensor input, the value of 128 has to be added to the real LUXMATE address, e.g. B1. The switching input can be addressed as a LUXMATE address via the value 129.

There are certain addressing conventions for addressing switching inputs which signal alarms. Thus all the switching inputs which signal alarms are addressed in Room 98. As a rule the LUXMATE addresses are assigned according to the following scheme in Room 98.

Sensor	Action objective	Address	Address at the assignment
Wind monitor	Wind alarm	129	1
Rain monitor	Rain alarm	130	2

In order to obtain detailed information on the LUXMATE installation, please contact the corresponding LUXMATE contact person. This person can provide exact information on the installation situation.

Polling the sensor value of a switching input

Action objective:

In a LUXMATE installation with an LRA-1500(x) the input door is to be monitored. The "Door closed" state is passed on via a switch to a switching input. The switching input has the LUXMATE address 20 (148) in Room 70 in the area of Field Bus 2.

The message for the action objective is:

```
<STX>TLR2R70B148T1I?<ETX>
```

The response can for example be:

```
<STX>TLR2R70I148T2D255E0<ETX>
```

Interpretation of the response:

The switching input currently signals the value 255. The door is closed. The switching input is currently functioning free of errors or faults.

These sensor inputs are bus-addressed switching inputs which makes polling of the switching position possible. The LUXMATE addresses of such bus-addressed switching inputs begin at the LUXMATE address 129 and thus lie outside the address range usual in LUXMATE. Values of 1 to 99 are used when assigning these LUXMATE addresses. In order for the external system to poll the state of a sensor input, the value of 128 has to be added to the real LUXMATE address, e.g. B1. The switching input can be addressed as a LUXMATE address via the value 1.

There are certain addressing conventions for addressing switching inputs which signal alarms. Thus all the switching inputs which signal alarms are addressed in Room 98. As a rule the LUXMATE addresses are assigned according to the following scheme in Room 98.

Sensor	Action objective	Address	Address at the assignment
Wind monitor	Wind alarm	129	1
Rain monitor	Rain alarm	130	2

In order to obtain detailed information on the LUXMATE installation, please contact the corresponding LUXMATE contact person. This person can provide exact information on the installation situation.

7.9 Polling values of the LUXMATE installation or LUXMATE BMS interface

Polling the date and time

Action objective:

The system time (date and time) of the LUXMATE installation are to be polled in a LUXMATE installation with an LM-SRV.

The message for the action objective is:

<STX>TIME?<ETX>

The response can for example be:

<STX>TIME03080602072001<ETX>

Interpretation of the response:

The LUXMATE installation signals the time 03:08:06 and the data 2nd. July, 2001

Polling the system parameters of the LUXMATE BMS interface

Action objective:

The system parameters of the LUXMATE BMS interface are to be polled for the commands DP and DM in a LUXMATE installation with an LRA.

You can, for example, poll the dimming increment.

The message for the action objective is:

<STX>SP_DINC?<ETX>

The response can for example be:

<STX>SP_DINC4<ETX>

Interpretation of the response:

The dimming increment for the commands DP and DM is presently set to 4 increments.

You can also poll the dimming delay time.

The message for the action objective is:

```
<STX>SP_DDT?<ETX>
```

The response can for example be:

```
<STX>SP_DDT150<ETX>
```

Interpretation of the response:

The dimming delay time for the commands DP and DM is presently set to 150 ms.

7.10 Setting the concentration-point operation (air-conditioning)

The external system can switch over the concentration-point operation of the air-conditioner via the LUXMATE BMS interface. In this case the external system disposes of outside temperature sensors. The external system uses corresponding algorithms to determine the required concentration-point operation and to call up the corresponding concentration-point operation.

Concentration-point operation is managed by the LRA-1500x or LM-TLRx. Only parameters of the LRA-1500x or LM-TLR can be adjusted via the LUXMATE BMS interface. There is a parameter for the concentration point for each room or each group.

All the air-conditioners within this room or the group are operated with the set concentration point.

Before parameters can be polled they must have been set at least once beforehand. Otherwise the LUXMATE output responds with an error message NAK<n>!. The parameter ID for the concentration point is 4663.

Action objective:

In a LUXMATE installation with an LRA-1500x or LM-TLR the concentration-point operation of Group 49 in Room 11 in the area of Field bus 2 is to be set to > Heating and cooling < . The set value is to be checked consequently.

The messages for this action objective are:

Setting the value.

```
<STX>TLR2R11G49PS4663W6<ETX>
```

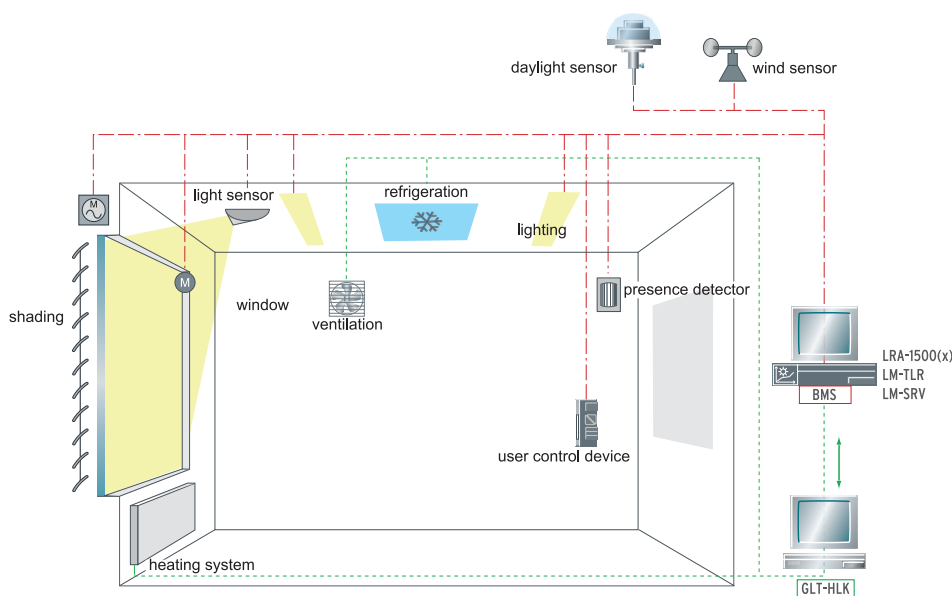
Polling the value.

```
>>> <STX>TLR2R11G49PG4663<ETX>
```

```
<<< <STX>TLR2R11G49PV4663W6<ETX>
```


7.11 Linking the air-conditioning control (external system) to LUXMATE

Example scenario



In a LUXMATE installation with an LRA-1500(x) or LM-TLRs and/or LM-SRV the rooms are controlled by LUXMATE and an external system. The LUXMATE air-conditioners are used. The external system and LUXMATE are connected to each other via the LUXMATE BMS interface of the LM-SRV.

LUXMATE directly controls:

- Luminaires
- Blinds
- Windows

The external system directly controls:

- Cooling ceiling
- Ventilation
- Heating

The user should be able to operate the following services via the LUXMATE operating devices:

- Luminaires
- Blinds
- Climate (temperature shift)
- Windows
- Ventilation setting

The following operating states are also known via LUXMATE:

- Presence
(can be determined by the presence sensor or by operation of the operating device)
- Entry of light
(can be measured with the inside light sensor)

Addressing of the example room:

- Luminaires:
 - Row of lights 1 has the LUXMATE address TLR2R3G1B1
 - Row of lights 2 has the LUXMATE address TLR2R3G1B2
- Blinds:
 - Blinds have the LUXMATE address TLR2R3G91B91
- Windows:
 - Windows have the LUXMATE address TLR2R3G80B81
- Operating devices and sensor inputs:
 - Operating device has the LUXMATE address TLR2R3
 - Presence sensor has the LUXMATE address TLR2R96G3
(Virtual room which operates Room 3 through links.
The links are defined at the LUXMATE end.)
 - Internal light sensor has the LUXMATE address TLR2R3B91

The following information is important for the external system:

- Person(s) present/absent
- Window open/closed
- Current temperature shift (operating wish)
- Current ventilator setting (operating wish)

The function of the external system for this room is defined roughly by the following conditions:

- Condition a.) If someone is present and the windows are closed, the heating, the cooling ceiling and/or the ventilator are operated in accordance with the outside temperature.
- Condition b.) If the window is closed and the user carries out a change in the temperature shift or in the ventilator position, the corresponding adjusting-value processes are to be passed on to the LUXMATE outputs (heating, ventilator).
- Condition c.) When the window is opened the heating, ventilation and air-conditioning of the corresponding room is interrupted (heat or cold escapes through the window) or other required measures are initiated.
- Condition d.) If no presence is polled for a certain period for a room, heating, ventilation and air-conditioning operation is initiated or the system passes over to night temperature lowering or other required measures are initiated.

The following examples were solved with the commands AUTO<a>!, AUTOW<a>!, since these are particularly suitable for the example described. The property of the commands of reacting event-specifically is the fastest possibility of informing the external system about changes. The example can also be solved with LUXMATE command ?, whereby the required LUXMATE addresses have to be polled periodically by the external system.

Polling presence or absence

Action objective:

The presence is to be polled. As a rule absence is defined in the LUXMATE system by the LUXMATE Scene 0 (off, absent). Presence is defined by a LUXMATE scene not equal to 0 (scenes from 1 - 20). The LUXMATE scene is called up by the presence sensor or by operation of the operating device. Switching on the room activates the automatic system for lights, blinds, windows, air-conditioners and ventilators. It is determined which LUXMATE scene is at present active for Room 3. For safety reasons a LUXMATE response should be sent every quarter of an hour.

The message for the action objective is:

```
<STX>TLR2R3T1AUTO900!<ETX>
```

This message is sent during the initialization. For safety reasons the messages of the initialization phase can be sent daily (e.g. at 03:00 mornings).

The response can for example be:

```
<STX>TLR2R3T2S1WxE00000<ETX>
<STX>TLR2R3T3S1W253E00000<ETX>
<STX>TLR2R3T11S1W-1.5E00000<ETX>
<STX>TLR2R3T39S1W255E00000<ETX>
<STX>TLR2R3T65S1W0E00000<ETX>
```

Interpretation of the response:

At present LUXMATE Scene 1 is active in Room 3, meaning that someone is present. The windows are closed at present. LUXMATE Type 65 (windows) signals the adjustment value 0. For the external system this means that Condition a.) in the described example is fulfilled.

After the scene has been changed by the user via the operating device, the responses can be:

```
<STX>TLR2R3T2S5W120E00000<ETX>
<STX>TLR2R3T3S5W0E00000<ETX>
<STX>TLR2R3T11S5W0.5E00000<ETX>
<STX>TLR2R3T39S5W0E00000<ETX>
<STX>TLR2R3T65S5W0E00000<ETX>
```

The response reaction is carried out automatically - this was defined by the initialization phase.

Interpretation of the response:

At present LUXMATE Scene 5 is active in Room 3, meaning that someone is present. The windows are closed at present. LUXMATE Type 65 (windows) signals the adjustment value 0. For the external system this means that Condition a.) in the described example is fulfilled.

The absence sensor switches the room off after a defined period of non-use:

```
<STX>TLR2R3T2S0W0E00000<ETX>
<STX>TLR2R3T3S0W0E00000<ETX>
<STX>TLR2R3T11S0W0E00000<ETX>
<STX>TLR2R3T39S0W0E00000<ETX>
<STX>TLR2R3T65S0W0E00000<ETX>
```

The response reaction is carried out automatically - this was defined by the initialization phase. Refer to AUTO<a>!

Interpretation of the response:

At present LUXMATE Scene 0 is active in Room 3, meaning that no-one is present. For the external system this means that Condition d.) in the described example is fulfilled.

Polling the window position

Action objective:

The window position is to be polled in the example described. Adjustment of the window position is carried out by means of the LUXMATE operating device. For safety reasons a LUXMATE response should be sent every quarter of an hour.

The message for the action objective is:

```
<STX>TLR2R3B81T65AUTOW900!<ETX>
```

This message is sent during the initialization. For safety reasons the messages of the initialization phase can be sent daily (e.g. at 03:00 mornings).

The response can for example be:

```
<STX>TLR2R3B81T65S2W0E0<ETX>
```

Interpretation of the response:

The windows are closed at present. LUXMATE Type 65 (windows) signals the adjustment value 0. If Room 3 signals present, this means for the external system that Condition a.) in the described example is fulfilled.

After an adjusting value has been changed by the user via the operating device, the responses can be:

```
<STX>TLR2R3B81T65S2W127E0<ETX>
```

The response reaction is carried out automatically - this was defined by the initialization phase.

Interpretation of the response:

The windows are open at present. LUXMATE Type 65 (windows) signals an adjustment value greater than 0 (127). If Room 3 signals present, this means for the external system that Condition c.) in the described example is fulfilled.

Polling the specified temperature shift

Action objective:

The current temperature shift is to be polled in the example described. Adjustment of the temperature shift is carried out by means of the LUXMATE operating device. The windows are closed.

The message for the action objective is:

```
<STX>TLR2R3B101T11AUTOW1!<ETX>
```

This message is sent during the initialization. For safety reasons the messages of the initialization phase can be sent daily, e.g. at 03:00 mornings.

The response can for example be:

```
<STX>TLR2R3G90B101T11S2W-1.5E0<ETX>
```

Interpretation of the response:

The temperature shift is set to -1.5 °C at present. LUXMATE Type 11 (temperature shift) signals the adjustment value -1.5. If Room 3 signals present, this means for the external system that Condition b.) in the described example is fulfilled. This means that the cooling ceiling is increased in summer or that the heating is decreased in winter.

After an adjusting value has been changed by the user via the operating device, the response can be:

```
<STX>TLR2R3G90B101T11S2W0.5E0<ETX>
```

The response reaction is carried out automatically - this was defined by the initialization phase.

Interpretation of the response:

The temperature shift is set to 0.5 °C at present. LUXMATE Type 11 (temperature shift) signals the adjustment value 0.5. If Room 3 signals present, this means for the external system that Condition b.) in the described example is fulfilled. This means that the cooling ceiling is decreased in summer or that the heating is increased in winter.

Polling the specified ventilator setting

Action objective:

The current ventilator position is to be polled in the example described. Adjustment of the ventilator position is carried out by means of the LUXMATE operating device. The windows are closed.

The message for the action objective is:

```
<STX>TLR2R3B101T39AUTOW1<ETX>
```

This message is sent during the initialization. For safety reasons the messages of the initialization phase can be sent daily (e.g. at 03:00 mornings).

The response can for example be:

```
<STX>TLR2R3B101T39S5W0E0<ETX>
```

Interpretation of the response:

The ventilator position is set to 0 at present. LUXMATE Type 39 (circulated air) signals the adjustment value 0. The ventilator is switched off. If Room 3 signals present, this means for the external system that Condition b.) in the described example is fulfilled.

After an adjusting value has been changed by the user via the operating device, the responses can be:

```
<STX>TLR2R3B101T39S5W255E0<ETX>
```

The response reaction is carried out automatically - this was defined by the initialization phase.

Interpretation of the response:










The ventilator position is set to 255 at present. LUXMATE Type 39 (circulated air) signals the adjustment value 255. The ventilator is switched on. If Room 3 signals present, this means for the external system that Condition b.) in the described example is fulfilled.




Appendix




A Glossary

LM-TLR	PC which automates the connected devices in a LUXMATE installation e.g. luminaires, blinds etc.
LUXMATE device	The components to be controlled and the control units in your LUXMATE installation, such as luminaires and blinds.
LUXMATE field bus	The address section TLR# corresponds to the LUXMATE field bus.
LUXMATE group	Several devices of a LUXMATE installation (e.g. LM-BLS/LM-TLX with emergency light inserts) which are addressed by the daylight processor as a superior unit. A LUXMATE group is assigned to a LUXMATE room.
LUXMATE installation	Complete LUXMATE room management installation. A LUXMATE installation comprises the complete hardware and software, which the user has received from LUXMATE Controls GmbH or a contract partner.
LUXMATE LAN	Network by means of which the daylight processors are connected.
LUXMATE output	The address section B# corresponds to the LUXMATE output.
LUXMATE room	Several devices of a LUXMATE installation (e.g. LM-BLS/LM-TLX with emergency light inserts) which are addressed by the daylight processor as a superior unit.
LUXMATE server	Interface between your office network and the LUXMATE network The LUXMATE installation uses its own closed network. As a rule your personal computer is connected to your company office network. In order to enable access to the devices of your LUXMATE installation at your local workplace, the LUXMATE server combines the two networks.
LUXMATE software	All the LUXMATE programs for controlling and administering a LUXMATE installation (system programs and applications).
TCP/IP	Protocol for connecting clients in a network, in the office LAN of a LUXMATE installation for connecting to the LUXMATE server.
Windows Socket	Windows protocol which provides the TCP/IP for all the applications under Windows.

B LUXMATE types

<Type>	Type name	Long name	Service	Value	Unit	Symbol
T2	INTENS	Brightness	Light	0 to 255	Incr (digits)	
T3	M-BLIND	Blind position (travel shutters)	Blind	0 to 255	Incr (digits)	
T4	A-BLIND	Angle of slats (shutter position)	Blind	0 to 255	Incr (digits)	
T5	BALANCE	Light balance (indirect/direct share)	Light (luminaries)	0 to 255	Incr (digits)	
T6	COLOUR	Light colour	Light (luminaries)	0 to 255	Incr (digits)	
T7	XY-SPOT	Horizontal movement (spot horizontal position)	Light (luminaries)	0 to 255	Incr (digits)	
T8	Z-SPOT	Vertical movement (spot vertical position)	Light (luminaries)	0 to 255	Incr (digits)	
T9	FOCUS	Focusing (focus)	Light (luminaries)	0 to 255	Incr (digits)	
T10	SCREEN	Screen	Screen	0 to 255	Incr (digits)	

<Type>	Type name	Long name	Service	Value	Unit	Symbol
T11	T-SHIFT	Offset for the room temperature (temperature shift)	HLK	-3.0 to +3.0	°C	
T12	LOUD	Volume	Acoustics	0 to 255	Incr (digits)	
T30	DIRECT	Direct light	Light (luminaries)	0 to 255	Incr (digits)	
T31	INDIR	Indirect light	Light (luminaries)	0 to 255	Incr (digits)	
T32	T-HEAT	Setpoint for the heating (heating setpoint)	HLK	0 to +127.50	°C	
T33	T-COOL	Setpoint for the cooling (cooling setpoint)	HLK	-64.00 to +63.50	°C	
T34	T-OUTDR	Outdoor temperature	HLK	-128.00 to +127.00	°C	
T35	T-ROOM	Temperature (room temperature)	HLK	0 to +120.00	°C	
T36	T-HEATER	Heating surface temperature	HLK	0 to +120.00	°C	
T37	T-VENTIL	Valve setting of the heating	HLK	-100.00 to +100.00	%	

<Type>	Type name	Long name	Service	Value	Unit	Symbol
T38	HUMIDITY	Relative humidity	HLK	0 to 100.00	%rh	
T39	EN-CIRC	Air exchange (enable circulation)	HLK	0 to 255	BOOL	
T64	CURTAIN	Curtain	Curtains	0 to 255	Incr (digits)	
T65	WINDOW	Windows	Windows	0 to 255	Incr (digits)	

C LM-SI03 configuration

Parameters

Parameters are used in order to specify or modify diverse properties of the LM-SI03. These are stored in the EEPROM of the LM-SI03. They are addressed via parameter numbers. The LM-SI03 manages the parameter numbers 1100 to 1107. Every parameter has an 8-bit value. The value of a parameter is interpreted either as a number (0 to 255) or as a bit pattern, depending on the parameter number.

The parameters are interrogated by means of the LUXMATE command `PARGET<p>?`. The LUXMATE command `PARSET<p>W<w>!` is used to set the values.

Disconnect the device from the network and connect it again after every modification (network reset).

Parameter number: 1100

Value: [B7 B6 B5 B4 B3 B2 B1 B0]

Default: [0 0 0 0 0 0 0 0]

This parameter defines the response behavior of the LM-SI03. The value is interpreted bit-coded.

Bit B0:

Determines the general response behavior.

B0 = 0 BMS-compatible status responses with `R#[G#B#]T#S<s>W<w>E<e>[<f><g><h><i><j>]`

B0 = 1 SI02-compatible status responses with `R#[G#L#T#]S<s>[W<w>]E<e><f>`

Bit B1:

Evaluation of the responses.

B1 = 0 The responses are taken from the address block information.
Responses are only transmitted for those bus stations which are created in address blocks.

B1 = 1 The responses are generated directly from the `<MODUL_DAT_TYP>` values.
Responses are also received from bus stations which are not created in address blocks (at bit B4 = 0).

Bit B2:

Confirmation of commands with ACK/NAK.

B2 = 0 Only ACK (ASCII 06h) or NAK (ASCII 15h) is sent as the acknowledgment.

B2 = 1 ACK (ASCII 06h) or NAK (ASCII 15h) is framed by STX/ETX characters.

Bit B3:

Determines the behavior of the RS-232 watchdog reset.

B3 = 0 If the RS-232 interface does not receive a character, no watchdog reset is triggered.

B3 = 1 If the RS-232 interface does not receive a character for 3 minutes, no watchdog reset is triggered.
The watchdog function is not activated again until a character is received via the RS-232 interface.

Bit B4:

Evaluation of the responses. This setting is only possible if bit B1 is set.

B4 = 0 All the <MODUL_DAT_TYP> messages are sent as responses if the addresses agree.

B4 = 1 Responses from <MODUL_DAT_TYP> only for created address blocks.

Bit B5:

Leading zeroes.

B5 = 0 Numerical values in messages come with the shortest possible length.

B5 = 1 Numerical values in messages come with a fixed length.

Bit B6:

Not used.

Bit B7

Not used.

Parameter number: 1101

Value: [B7 B6 B5 B4 B3 B2 B1 B0]

Default: [0 0 0 0 0 0 0 0]

This parameter defines the polling behavior of the LM-SI03. The value is interpreted bit-coded.

Bit B0

Determines the polling behavior after a scene has been called up or after a dimming process.

B0 = 0 Whenever the scene has been called up or after a dimming process a <POLL_ZTR> command is sent to the LM bus in order to poll the current value of the modules. This information is saved in the address blocks.

B0 = 1 No polling after a scene has been called up or after dimming processes.

Bit B1

Determines the polling behavior after an adjustment value has been set.

B0 = 0 Whenever an adjustment value has been set a <POLL_ZTR> command is sent to the LM bus in order to poll the current value of the modules. This information is saved in the address blocks.

B1 = 1 No polling after an adjustment value has been set.

Bit B2

Determines the creation of address blocks.

B2 = 0 Creating of permanent address blocks (in the RAM and EEPROM).

B2 = 1 No permanent address blocks are created for LUXMATE outputs (addresses with B#). These address blocks are only created temporarily in the RAM.

Bit B3

Not used.

Bit B4

Not used.

Bit B5

Not used.

Bit B6
Not used.

Bit B7
Not used.

Parameter number: 1102

Not used.

Parameter number: 1103

Not used.

Parameter number: 1104

Not used.

Parameter number: 1105

Not used.

Parameter number: 1106

Not used.

Parameter number: 1107

Not used.

EEPROM layout

All the settings of the device are stored in the EEPROM of the LM-SI03. The individual settings can be interrogated with the command E<e>R?. The values are set with the command E<e>M<m>L<l>!.

Disconnect the device from the network and connect it again after every modification (network reset).

Word address	Designation	Default value
8 MSB	Default field bus number	0
8 LSB	Default room number	1
9 MSB	Default group number	0
9 LSB	Default bus number	0
10 MSB	Default dimming type	2
10 LSB	Default switching type	1
11 MSB	Repeat rate for dimming (10 ms)	20
11 LSB	Toggle scene	1
12 MSB	Send SCHALT_SPEED	0
12 LSB	Loop time through	0
13 MSB	Loop through EG_ANZEIGE	0
14 MSB	Parameter 1100	0
14 LSB	Parameter 1101	0
15 MSB	Parameter 1102	0
15 LSB	Parameter 1103	0
16 MSB	Parameter 1104	0
16 LSB	Parameter 1105	0
17 MSB	Parameter 1106	0
17 LSB	Parameter 1107	0

D License agreement

End User License Agreement for LUXMATE software products

Issued 29 June 1999

This End User License Agreement (EULA) is a legal contract between yourself, as a natural or legal person, and LUXMATE Controls GmbH, A-6850 Dornbirn, and gives you the right to use the LUXMATE software product as stated below.

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- If the software product includes functionality which allows the computer to operate as a Network server, any number of computers or workstations may access the server or otherwise use the basic network services of the server. The basic network services are described in the corresponding printed documentation.
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- You agree not to offer the software product for hire, lease, loan or otherwise make it available to third parties in any way whatsoever.
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 - If the software product is an update, you transfer all previous versions of the software product.
 - You assign all rights and obligations arising out of this EULA to the assignee and that the assignee agrees to abide by the provisions of the EULA and enters the EULA in your place.
- Notwithstanding any other rights, LUXMATE Controls is entitled to terminate this EULA if you are found to be in breach of any of its provisions and conditions. In this case you must immediately stop using the LUXMATE software product and return the software product including all copies and components to LUXMATE Controls. LUXMATE Controls can make you liable for any damages which LUXMATE Controls incurs as a result of a breach of this EULA by you and LUXMATE Controls is under no obligation to repay the license fee either in part or in full.

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- LUXMATE Controls can, but is not obliged to issue software updates.
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Legal notes

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