# animeo ${ }^{\circledR}$ KNX 4 AC Motor Controller WM/DRM 220-240V AC Instructions 



Ref. 1860114


Ref. 1860116

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These instructions apply to KNX 4 AC Motor Controller WM/DRM 220-240 V AC from version B onwards!!!

$\triangle$Before starting up it is necessary to follow the safety instructions in this instruction. SOMFY cannot be held liable for defects and damages when these have been caused as a result of not following instructions (wrong installation, incorrect service etc.). Establishing, testing and starting up of the equipment is permitted only by a qualified person (in accordance with VDE 0100). Switch on all connections without voltage. Take precautions against unintentional turning on.

The installation of the Somfy products may occur only at easily accessible places. If maintenance and repair become hindered by accessibility substantially (e.g. stuck or extensively stuck flooring, installation behind lamps or behind façades), any originating supplementary costs therein cannot be charged to the seller.

## Introduction

The animeo KNX Motor Controller WM/DRM 220-240 V AC is suited for selecting from up to four individually parameterable motors for Venetian blinds, roller shutters, awnings and windows. The local push button inputs can be used as conventional push buttons or as universal KNX binary inputs.

## Functions and advantages

- Time savings through easy installation, for example, using spring connectors, strain relief cable binders, sufficient enough clamping space ...
- A group input can be used to control all four motors independent of ETS programming.
- Every motor is safe with an individual fuse $(3.15, \mathrm{~A})$.
- Moving direction of the motors is possible without ETS.
- The device can be used in the delivery state without programming with the ETS software.
- 4 local push button inputs can be used as maximum 8 universal KNX binary inputs to connect, for example, window contacts, temperature sensors or presence detectors. Using conventional push buttons, lighting can also be controlled and dimmed.
- User-friendly and intuitive parameter settings in the ETS software.
- Intelligent change-over between manual operation and automatic operation to guarantee excellent user friendliness and energy savings.
- Position messaging of the motors during the movement and when reaching the upper or lower end position.
- Two different safety positions, freely determinable for every individual motor output.
- Safety position with mains voltage return freely determinable and messaging over building.
- Automatic cascading of the outputs with mains voltage return and bus-safety functions to minimise power peaks.
- Plug and Play! Any time extendable with animeo RTS radio module (Ref. 1860105). Without additional wiring the four motors can be controlled individually per radio using Somfy RTS technology.
- Alternatively the animeo KNX RTS Receiver (Ref. 1860191) can be used. Here, without additional wiring, up to 5 universal KNX radio binary inputs can be gained (e.g., light 0N/OFF with DIM).

A complete parametering and programming is only possible when there is a power supply and KNX bus voltage on the KNX Motor Controller. When only KNX bus voltage is present, only the physical address can be programmed.

1 Definitions

## Manual Command

## Automatic Command

## US push button ergonomics

EU push button ergonomics

A manual command is a command which is generated by local conventional push buttons or by a Somfy RTS radio hand transmitter. A telegram which is sent on the objects 0-7 (bit commands) is also understood as a manual command.

A telegram which is sent on the objects 8-15 (byte commands) is understood as an automatic command.
With this parameter it is ensured that the Venetian blind is controlled in the US ergonomics over the local push button inputs or over the Somfy RTS radio hand transmitter.
Short pressing of the push button (<0.5 s): A move command is carried out.
Long pressing of the push button (> 0.5 s ): A turn command is carried out, as long as the push button is pressed. When released, the turn command is stopped. If the current position of the Venetian blind is beyond the turn, a move command is carried out with pressed push button.

With this parameter it is ensured that the Venetian blind is controlled in the EU ergonomics over the local push button inputs or over the Somfy RTS radio hand transmitter.
Short pressing of the push button (<0.5 s): A turn step is carried out.
Long pressing of the push button (> 0.5 s ): A turn command is carried out, as long as the push button is pressed. If the current position of the Venetian blind is beyond the turn, a move command is carried out.

Screen push button ergonomics With this parameter it is ensured that the end product is controlled in Screen ergonomics over the local push button inputs or over the Somfy RTS radio hand transmitter.
Short pressing of the push button when the end product is moving: A stop command is carried out. Long pressing of the push button when the end product is not moving: A drive command is carried out.
$\triangle$ These ergonomics are selected to control vertical awnings, roller shutters, awnings and windows.

## Position of the slats




Choose the right place for installation:


Installation of the Motor Controller 4 AC WM

level surface with sufficient space


Complete wiring and connect power supply


## 3 Wiring diagram



The "US"-LED blinks regularly when the mains ( 230 V ) and the KNX bus voltage are connected actively on the device. The device is ready for operation when the "US" LED blinks.

WIRING

| Connected to ... | Cabling | Twisted pair | Max. length |
| :--- | :--- | :--- | :--- |
| Motors | Min.: $4 \times 0.75 \mathrm{~mm}^{2} / 19$ AWG <br> Max.: $4 \times 2.5 \mathrm{~mm}^{2} / 14$ AWG | - | 150 m |
| Push button | Min.: $3 \times 0.6 \mathrm{~mm} / 22$ AWG <br> Max.: $3 \times 2.5 \mathrm{~mm}^{2} / 14$ AWG | Recommended | 150 m |
| Group control | Min.: $3 \times 0.6 \mathrm{~mm} / 22$ AWG <br> Max.: $3 \times 1.5 \mathrm{~mm}^{2} / 16$ AWG | Recommended | 50 m |
| KNX Bus | $2 \times 0.8 \mathrm{~mm} / 20$ AWG | Compulsory, corresponding to <br> KNX topology guidelines |  |
| 230 V AC | Min.: $3 \times 1.5 \mathrm{~mm}^{2} / 16$ AWG <br> Max.: $3 \times 2.5 \mathrm{~mm}^{2} / 14$ AWG |  |  |

### 3.1 Checking the move direction of the end products

## Group control of the motor outputs 1-4 over the group input

The move directions of the motors can be checked via the group inputs. All four motor outputs are switched simultaneously. This input can be blocked in the ETS parameters. In the event of bus power failure, it is always freed to allow emergency operation.
© When starting up, make absolutely sure that the motors move in the right direction. This check can be carried out by making a wiring bridge at the group input.


Check the correct move direction of the end products
DOWN: The end product moves down (bridge between: $\mathbf{C + \boldsymbol { \nabla } \text { ) } ) ~ ( ~}$
STOP: The end product stops (bridge between: $C+\boldsymbol{\nabla}+\boldsymbol{\Delta}$ )
UP: $\quad$ The end product moves upwards $(\mathbb{C}+\boldsymbol{\nabla})$

## 4 Settings in the delivery state

The Motor Controller KNX can be used in the delivery state also without prior programming by the ETS software. Practical presets are implemented in the device. These settings apply to all four motor outputs.

- Move times UP/DOWN, CLOSED/OPEN = 5 minutes
- Connection of local conventional push buttons is possible

The local push button inputs are assigned directly to the motor outputs: Push button input 1 controls motor output 1 (fig. 1). The motor outputs can be controlled through bridging the wire at the push button inputs when required (fig. 2).


Fig. 1


Fig. 2

### 4.1 Function of the Reset/Prog button

© The basic settings in the KNX Motor Controller can be made using this push button. These basis settings are possible only in the delivery state, before the device with the ETS was programmed, or after the device was unassigned by the ETS.
The basis settings are overwritten by the settings in the ETS.

### 4.2 Selection of different user ergonomics

Using the Reset/Prog button the press button user ergonomics for the local push button inputs or Somfy RTS radio hand transmitter can be determined. These settings are possible only in the delivery state, before the device is programmed with ETS software or after the device is unassigned with the ETS.
As soon as the device with the ETS is programmed, no further settings of the user ergonomics can be made via the Reset/Prog button. When the device is unassigned by the ETS, the adjusting of the user ergonomics is possible again via the Reset/Prog button.
$\triangle$ The selection of the user ergonomics must match with a corresponding end product.

$\bullet)$ ) $=$ Learning-in of animeo RTS radio module
SCR = Screen ergonomics*
$\mathrm{EU}=$ Venetian blind, EU ergonomics*
US = Venetian blind, US ergonomics*

* see chapter 1 "Definitions"

Changing the ergonomics:


The delivery state is Venetian blind with EU ergonomics


To change to different ergonomics press briefly the Reset/Prog button. Repeat till such time as the desired LED shines.


Save and exit the setting mode

### 4.3 Manual learning-in of move and turn times

The move and turn times per motor output can be set via local conventional push buttons. These settings are possible only in the delivery state before the device has been programmed with the ETS. As soon as the device with the ETS is programmed, the move times and turn times can no Ionger be set via local conventional push buttons. When the device is unassigned by the ETS, the adjusting of the move times and turn times via local conventional push buttons can be done again.

Alternatively to the conventional push buttons, the settings can also be done using the Somfy RTS Transmitter and animeo RTS Radio Module (Ref. 1860105). A setting using animeo KNX RTS Receiver (Ref. 1860191) and Somfy RTS Transmitter is not possible!

Learning-in length of move and turn times


Press immediately when the
Hold Stop during the complete turn lower end position is reached


### 4.4 Manual learning-in of the intermediate position 1

Intermediate position 1 can be learned-in individually per motor output via conventional local push buttons. At the same time, it is possible to carry out the intermediate position 1 via settings in the ETS parameters. Prior to this, the move and turn times must be learned-in!
© Alternatively to the conventional push buttons, the settings can also be done using the Somfy RTS Transmitter and animeo RTS Radio Module (Ref. 1860105). A setting using animeo KNX RTS Receiver (Ref. 1860191) and Somfy RTS Transmitter is not possible!

Save
(1) Move blinds to desired position

$\triangle$ With conventional unlocked push buttons, a Stop command is generated by pressing the UP and DOWN button at the same time.
© Whilst saving, the blinds move briefly UP and DOWN.
(2) Save position



### 4.5 Resetting to the delivery state

1. When the device has not been programmed with the ETS software.


## Full RESET:

The settings made via the Reset/Prog push button can be set back to the delivery state by pressing the Reset/Prog button for 10 seconds.
2. When the device has been programmed with the ETS software.


When the device has been programmed with the ETS software, a reset in the delivery state is no longer possible via the Rest/Prog button. Over the function "Unload" in the ETS, all settings of the device can be set back in the delivery state. The Reset/Prog button is then freed again.

## 5 Communication objects

At the most, 150 communication objects are available for use, but not all at once. A maximum of 250 group addresses can be connected.
$\left.\begin{array}{|c|l|l|l|l|}\hline \text { No. } & \text { Object name } & \text { Model } & \text { DPT_ID } & \begin{array}{l}\text { Description }\end{array} \\ \hline 1 & \text { Motor } 1 \text { UP / DOWN, CLOSED / OPEN } & 1 \text { Bit } & 1.001 & \begin{array}{l}\text { If a telegram with the value "0" is received by this communication } \\ \text { object, the corresponding blind is moved upwards or a window } \\ \text { is closed. If a telegram with the value "1" is received, the corre- } \\ \text { sponding blind is moved down or a window is opened. At the end } \\ \text { of the set move time for UP or Down direction or the move time for } \\ \text { opening or closing of the window, the relays of the outputs are } \\ \text { freed. }\end{array} \\ \hline 2 & \text { Motor 2 UP/ DOWN, CLOSED / OPEN } & 1 \text { Bit } & 1.001 & 1 \text { Bit } \\ \hline 3 & \text { Motor } 3 \text { UP/ DOWN, CLOSED / OPEN } & 1 \text { Bit } & 1.001 & 1 \text { Bit } \\ \hline 4 & \text { Motor } 4 \text { UP/ DOWN, CLOSED / OPEN } & 1.001 & \begin{array}{l}\text { With Venetian blinds: If the Venetian blind is moving, the move is } \\ \text { stopped with the receiving of a telegram on one of these commu- } \\ \text { nication objects, no matter whether "0" or "1" is received. If the } \\ \text { Venetian blind is stationary, a turn is carried out. In addition, the } \\ \text { slats turn CLOSED with the receiving of a telegram with the value } \\ \text { "1" and UP with the receiving of a telegram with the value "0". The } \\ \text { duration of the turning step is defined in the parameter settings. } \\ \text { With vertical awnings, roller shutters, awnings and windows: } \\ \text { When one of the end products is moving, the move is stopped with } \\ \text { the receiving of a telegram on one of these communication objects, }\end{array} \\ \text { no matter whether "0" or "1" is received. If one of these end } \\ \text { products is not moving and a telegram is received on one of these } \\ \text { communication objects, then no operation is carried out. }\end{array}\right\}$

| No. | Object name | Model | DPT_ID | Description |
| :---: | :---: | :---: | :---: | :---: |
| 26 | Motor 1-4 Move to IP 2 | 1 Bit | 1.001 | If a telegram with the value " 1 " is received on this communication object, the blinds move to the Intermediate Positition (IP) 2 parametered in the ETS parameters. With the receiving of a telegram with the value " 0 " on this communication object the blinds 1-4 move to the upper end position. |
| 27 | Motor 1 Security, low prio | 1 Bit | 1.001 | If a telegram with the value " 1 " is received on one of these communication objects, the corresponding blind moves to the position parametered in the ETS parameters. With the receiving of a telegram with the value " 0 " on one of these communication objects, no operation is carried out. Only when "Repeat last telegram after security (Yes)" has been selected in the ETS parameters, can the operation for the corresponding blind be carried out. If one of these communication objects is activated by a telegram with the value "1" and on one of the communication objects 32-34 (Security, high prio) a telegram is received with the value " 1 ", the corresponding blind move to the position parametered in the ETS (Security, high prio). |
| 28 | Motor 2 Security, low prio | 1 Bit | 1.001 |  |
| 29 | Motor 3 Security, low prio | 1 Bit | 1.001 |  |
| 30 | Motor 4 Security, low prio | 1 Bit | 1.001 |  |
| 31 | Motor 1-4 Security, low prio | 1 Bit | 1.001 | If a telegram with the value " 1 " is received on this communication object, the blinds 1-4 move to the position parametered in the ETS parameters. With the receiving of a telegram with the value " 0 " on this communication object no operation is carried out. Only when "Repeat last telegram after security (Yes)" has been selected in the ETS parameters can the operation for the corresponding blinds 1-4 be carried out. If one of these communication objects is activated by a telegram with the value " 1 " and on the communication object 36 (Security, high prio) a telegram is received with the value "1", the blinds 1-4 move to the position parametered in the ETS (Security, high prio). |
| 32 | Motor 1 Security, high prio | 1 Bit | 1.001 | If a telegram with the value " 1 " is received on one of these communication objects, the corresponding blind moves to the position parametered in the ETS parameters. With the receiving of a telegram with the value " 0 " on this communication object no operation is carried out. Only when "Repeat last telegram after security (Yes)" has been selected in the ETS parameters can the operation for the corresponding blind be carried out. In this case, when an object for "Security, low prio" is activated ("1"), the corresponding parametered position will be moved to. |
| 33 | Motor 2 Security, high prio | 1 Bit | 1.001 |  |
| 34 | Motor 3 Security, high prio | 1 Bit | 1.001 |  |
| 35 | Motor 4 Security, high prio | 1 Bit | 1.001 |  |
| 36 | Motor 1-4 Security, high prio | 1 Bit | 1.001 | If a telegram with the value " 1 " is received on this communication object, the blinds 1-4 move to the IP 2 parametered in the ETS parameters. With the receiving of telegram with the value " 0 " on this communication object no operation is carried out. Only when "Repeat last telegram after security (Yes)" has been selected in the ETS parameters can the operation for the blinds 1-4 be carried out. In this case, when an object for "Security, low prio" is activated ("1"), the corresponding parametered position will be moved to. |
| 37 | Mains power failure (230 V) | 1 Bit | 1.002 | A mains power failure is signaled with this communication object. As soon as the mains voltage cuts out, a telegram with the value "1" is sent to the bus. With return of mains voltage this communication object sends the telegram with the value "0". |
| 38 | Motor 1 Feedback UP/ DOWN | 1 Byte | 5.004 | Through these communication objects, the actual position, based on the learned-in move time (UP/DOWN direction) of the corresponding blind, is sent to the bus. This kind of sending (on demand, status change, cyclic) is set in the ETS parameters. <br> "0" = upper / " 255 " = lower. |
| 39 | Motor 2 Feedback UP/ DOWN | 1 Byte | 5.004 |  |
| 40 | Motor 3 Feedback UP / DOWN | 1 Byte | 5.004 |  |
| 41 | Motor 4 Feedback UP / DOWN | 1 Byte | 5.004 |  |
| 42 | Motor 1 Feedback slat | 1 Byte | 5.004 | Through this communication objects, the actual slats position, based on the learned-in turn time, is sent to the bus. This kind of sending (on demand, status change, cyclic) is set in the ETS parameters. The position, dependent of parameter settings on the menu list "General" is defined as follows: <br> " 255 " = slats max. closed $/$ " 0 " = slats max. turned <br> or <br> "0" = slats max. closed / " 255 " = slats max. turned |
| 43 | Motor 2 Feedback slat | 1 Byte | 5.004 |  |
| 44 | Motor 3 Feedback slat | 1 Byte | 5.004 |  |
| 45 | Motor 4 Feedback slat | 1 Byte | 5.004 |  |


| No. | Object name | Model | DPT_ID | Description |
| :--- | :--- | :--- | :--- | :--- |
| 46 | Motor 1-4 Status positions | 1 Bit | 1.001 | If a telegram with the value "1" or "0" is received on this com- <br> munication object, the current status positions of the corresponding <br> blinds are sent to the bus (objects 38-45). |
| 47 | Motor 1 Upper end position | 1 Bit | 1.001 | Through these communication objects a telegram with the value "1" <br> for the corresponding blind is sent when the upper end position is <br> reached. When leaving the upper end position of the corresponding <br> blind, a telegram with the value "0" is sent. The upper and lower <br> end position is determined by the parametered move times. |
| 48 | Motor 2 Upper end position | 1 Bit | 1.001 | 1 Bit |
| 49 | Motor 3 Upper end position | 1.001 | 1 Bit | 1.001 | | Mit |
| :--- |

$\left.\begin{array}{|l|l|l|l|l|}\hline \text { No. } & \text { Object name } & \text { Model } & \text { DPT_ID } & \begin{array}{l}\text { Description }\end{array} \\ \hline 71 & \text { Switch input 1: STEP/STOP } & 1 \text { Bit } & 1.001 & \begin{array}{l}\text { A short pressing of the button on input A generates a telegram on } \\ \text { this communication object with the value "0". The slat turns UP. } \\ \text { When the Venetian blinds are making a move then a short pressing } \\ \text { of the button generates a stop command on input A. A short press- } \\ \text { ing of the switch on input B generates a telegram with the value }\end{array} \\ \text { "1". The slats turn CLOSE. When the Venetian blind is making a } \\ \text { move then a short pressing of the button generates a stop command } \\ \text { on input B. }\end{array}\right\}$

| No. | Object name | Model | DPT_ID | Description |
| :---: | :---: | :---: | :---: | :---: |
| 91 | Switch input 3: F, 8-Bit value | 1 Bit | 5.004 | See object description 75, F instead B |
| 92 | Switch input 3: E/F, Dimming | 1 Bit | 1.001 | See object description 76, E/F instead A/B |
| 93 | Switch input 3: E/F, Dimming, Value | 4 Bit | 3.007 | See object description 77, E/F instead A/B |
| 94 | Switch input 4: UP/ DOWN | 1 Bit | 1.001 | See object description 70, G/H instead A/B |
| 95 | Switch input 4: STEP/STOP | 1 Bit | 1.001 | See object description 71, G/H instead A/B |
| 96 | Switch input 4: G, Switch | 1 Bit | 1.001 | See object description 72, G instead A |
| 97 | Switch input 4, H, Switch | 1 Bit | 1.001 | See object description 73, H instead B |
| 98 | Switch input 4: G, 8-Bit value | 1 Bit | 5.004 | See object description 74, G instead A |
| 99 | Switch input 4: H, 8-Bit value | 1 Bit | 5.004 | See object description 75, H instead B |
| 100 | Switch input 4: G/H, Dimming | 1 Bit | 1.001 | See object description 76, G/H instead A/B |
| 101 | Switch input 4: G/H, Dimming, Value | 4 Bit | 3.007 | See object description 77, G/H instead A/B |
| 110 | Radio input 1: UP/DOWN | 1 Bit | 1.001 | A longer pressing of the "UP" switch on channel 1 of the learnedin handheld sender generates a telegram with the value " 0 ". The Venetian blind moves UP. <br> A longer pressing of the "DOWN" switch on channel 1 of the learned-in handheld sender generates a telegram with the value " 1 ". The Venetian blind moves DOWN. |
| 111 | Radio input 1: STEP/STOP | 1 Bit | 1.001 | According to the parameter settings a short press on the "my" button on channel 1 of the learned-in handheld radio transmitter generates a telegram with the value " 0 " on this communication object. The slats turn OPEN. When the Venetian blind is moving then a short press of channel 1 on the learned-in handheld radio transmitter will generate a stop command. <br> A short pressing of the "DOWN" button on channel 1 of the learnedin handheld radio transmitter generates a telegram with the value "1" on this communication object. The slats turn DOWN. When the Venetian blind is moving then a short press of channel 1 on the learned-in handheld radio transmitter will generate a stop command. |
| 112 | Radio input 1: Switch "my" button | 1 Bit | 1.001 | According to the parameter settings a press on the "my" button on channel 1 of the learned-in handheld radio transmitter generates a switching telegram with the value " 0 " or " 1 " on this communication object. |
| 113 | Radio input 1: 8-Bit value "my" button | 1 Byte | 5.004 | According to the parameter settings a press on the "my" button on channel 1 of the learned-in handheld radio transmitter sends a switching telegram with the value ( $0-255$ ). |
| 114 | Radio input 1: Switch "UP" button | 1 Bit | 1.001 | According to the parameter settings a press on the "UP" button on channel 1 of the learned-in handheld radio transmitter generates a switching telegram with the value " 1 " or " 0 " on this communication object. |
| 115 | Radio input 1: Switch "DOWN" button | 1 Bit | 1.001 | According to the parameter settings a press on the "DOWN" button on channel 1 of the learned-in handheld radio transmitter generates a switching telegram with the value " 1 " or " 0 " on this communication object. |
| 116 | Radio input 1: 8-Bit value "UP" button | 1 Byte | 5.004 | According to the parameter settings a press on the "UP" button on channel 1 of the learned-in handheld radio transmitter sends a switching telegram with the value ( $0-255$ ). |
| 117 | Radio input 1: 8-Bit value "DOWN" button | 1 Byte | 5.004 | According to the parameter settings a press on the "DOWN" button on channel 1 of the learned-in handheld radio transmitter sends a switching telegram with the value ( $0-255$ ). |


| No. | Object name | Model | DPT_ID | Description |
| :---: | :---: | :---: | :---: | :---: |
| 118 | Radio input 1: Dimming 0N/OFF or Slow tilting UP/DOWN | 1 Bit | 1.001 | ON/UP: <br> A short pressing of the "UP" button on channel 1 of the learned-in handheld radio transmitter generates a telegram with the value "0" on this communication object. The lights switch OFF or the Venetian blind moves UP. <br> OFFIDOWN: <br> A short pressing of the "DOWN" button on channel 1 of the learnedin handheld radio transmitter generates a telegram with the value "1" on this communication object. The lights switch ON or the Venetian blind moves DOWN. <br> Toggle/Toggle: <br> A short pressing of the "DOWN" or the "UP" button on channel 1 of the learned-in handheld radio transmitter generates a telegram with the value " 1 " or with the value " 0 "on this communication object. The lights switch ON or OFF or the Venetian blind moves DOWN or UP. |
| 119 | Radio input 1: Dimming Brighter/Darker or Slow tilting OPEN/CLOSE | 4 Bit | 3.007 | Brighter/Slow tilting open: <br> A longer pressing of the "UP" button on channel 1 of the learned-in handheld radio transmitter generates a telegram with the adjusted value " $100 \%, 1 / 2,{ }^{1} / 4,1 / 8,1116,1 / 32$ or ${ }^{1 / 64}$ " on this communication object. The lights dim darker or the Venetian blind moves UP. <br> Darker/Slow tilting close: <br> A short pressing of the "DOWN" button on channel 1 of the learned-in handheld radio transmitter generates a telegram with the adjusted value " $100 \%,^{1 / 2},{ }^{1 / 4},{ }^{1 /} / 8,{ }^{1} / 16,1 / 32$ or ${ }^{1 / 64}$ " on this communication object. The light dims brighter or the Venetian blind turns slowly closed. |
| 120 | Radio input 2: UP / DOWN | 1 Bit | 1.001 | See object description 110, channel 2 instead channel 1 |
| 121 | Radio input 2: STEP/STOP | 1 Bit | 1.001 | See object description 111, channel 2 instead channel 1 |
| 122 | Radio input 2: Switch "my" button | 1 Bit | 1.001 | See object description 112, channel 2 instead channel 1 |
| 123 | Radio input 2: 8-Bit value "my" button | 1 Byte | 5.004 | See object description 113, channel 2 instead channel 1 |
| 124 | Radio input 2: Switch "UP" button | 1 Bit | 1.001 | See object description 114, channel 2 instead channel 1 |
| 125 | Radio input 2: Switch "DOWN" button | 1 Bit | 1.001 | See object description 115, channel 2 instead channel 1 |
| 126 | Radio input 2: 8-Bit value "UP" button | 1 Byte | 5.004 | See object description 116, channel 2 instead channel 1 |
| 127 | Radio input 2: 8-Bit value "DOWN" button | 1 Byte | 5.004 | See object description 117, channel 2 instead channel 1 |
| 128 | Radio input 2: Dimming 0N/OFF or Slow tilting UPIDOWN | 1 Bit | 1.001 | See object description 118, channel 2 instead channel 1 |
| 129 | Radio input 2: Dimming Brighter/Darker or Slow tilting OPEN/CLOSE | 4 Bit | 3.007 | See object description 119, channel 2 instead channel 1 |
| 130 | Radio input 3: UP/ DOWN | 1 Bit | 1.001 | See object description 110, channel 3 instead channel 1 |
| 131 | Radio input 3: STEP/STOP | 1 Bit | 1.001 | See object description 111, channel 3 instead channel 1 |
| 132 | Radio input 3: Switch "my" button | 1 Bit | 1.001 | See object description 112, channel 3 instead channel 1 |
| 133 | Radio input 3: 8-Bit value "my" button | 1 Byte | 5.004 | See object description 113, channel 3 instead channel 1 |
| 134 | Radio input 3: Switch "UP" button | 1 Bit | 1.001 | See object description 114, channel 3 instead channel 1 |
| 135 | Radio input 3: Switch "DOWN" button | 1 Bit | 1.001 | See object description 115, channel 3 instead channel 1 |
| 136 | Radio input 3: 8-Bit value "UP" button | 1 Byte | 5.004 | See object description 116, channel 3 instead channel 1 |
| 137 | Radio input 3: 8-Bit value "DOWN" button | 1 Byte | 5.004 | See object description 117, channel 3 instead channel 1 |
| 138 | Radio input 3: Dimming 0N/OFF or Slow tilting UP/DOWN | 1 Bit | 1.001 | See object description 118, channel 3 instead channel 1 |


| No. | Object name | Model | DPT_ID | Description |
| :---: | :---: | :---: | :---: | :---: |
| 139 | Radio input 3: Dimming Brighter/Darker or Slow tilting OPEN/CLOSE | 4 Bit | 3.007 | See object description 110, channel 3 instead channel 1 |
| 140 | Radio input 4: UP/ DOWN | 1 Bit | 1.001 | See object description 110, channel 4 instead channel 1 |
| 141 | Radio input 4: STEP/STOP | 1 Bit | 1.001 | See object description 111, channel 4 instead channel 1 |
| 142 | Radio input 4: Switching "my" button | 1 Bit | 1.001 | See object description 112, channel 4 instead channel 1 |
| 143 | Radio input 4: 8-Bit value "my" button | 1 Byte | 5.004 | See object description 113, channel 4 instead channel 1 |
| 144 | Radio input 4: Switch "UP" button | 1 Bit | 1.001 | See object description 114, channel 4 instead channel 1 |
| 145 | Radio input 4: Switch "DOWN" button | 1 Bit | 1.001 | See object description 115, channel 4 instead channel 1 |
| 146 | Radio input 4: 8-Bit value "UP" button | 1 Byte | 5.004 | See object description 116, channel 4 instead channel 1 |
| 147 | Radio input 4: 8-Bit value "DOWN" button | 1 Byte | 5.004 | See object description 117, channel 4 instead channel 1 |
| 148 | Radio input 4: Dimming 0N/0FF or Slow tilting UP/DOWN | 1 Bit | 1.001 | See object description 118, channel 4 instead channel 1 |
| 149 | Radio input 4: Dimming Brighter/Darker or Slow tilting OPEN/CLOSE | 4 Bit | 3.007 | See object description 119, channel 4 instead channel 1 |
| 150 | Radio input 5: UP/ DOWN | 1 Bit | 1.001 | See object description 110, channel 5 instead channel 1 |
| 151 | Radio input 5: STEP/STOP | 1 Bit | 1.001 | See object description 111, channel 5 instead channel 1 |
| 152 | Radio input 5: Switch "my" button | 1 Bit | 1.001 | See object description 112, channel 5 instead channel 1 |
| 153 | Radio input 5: 8-Bit value "my" button | 1 Byte | 5.004 | See object description 113, channel 5 instead channel 1 |
| 154 | Radio input 5: Switch "UP" button | 1 Bit | 1.001 | See object description 114, channel 5 instead channel 1 |
| 155 | Radio input 5: Switch "DOWN" button | 1 Bit | 1.001 | See object description 115, channel 5 instead channel 1 |
| 156 | Radio input 5: 8-Bit value "UP" button | 1 Byte | 5.004 | See object description 116, channel 5 instead channel 1 |
| 157 | Radio input 5: 8-Bit value "DOWN" button | 1 Byte | 5.004 | See object description 117, channel 5 instead channel 1 |
| 158 | Radio input 5: Dimming 0N/OFF or Slow tilting UPIDOWN | 1 Bit | 1.001 | See object description 109, channel 5 instead channel 1 |
| 159 | Radio input 5: Dimming Brighter/Darker or Slow tilting OPEN/CLOSE | 4 Bit | 3.007 | See object description 110, channel 5 instead channel 1 |

## 6. Parameter

The selection options of the single parameters are described in each case. The defaults are printed in italics. In the following illustrations of the different parameter cards the maximum number of parameters is shown. Besides this and depending on the parameter settings, objects which are not required are blended out.

### 6.1 Menu index card "General"



## Standard settings of the motors

```
Selection options: • Combined
```

- Individual

With these parameters, the settings of the motor outputs are made as to whether "Combined" or "Individual". If the parameter "Combined" is selected, only one menu index card becomes visible for the basic settings of all four motor outputs (motor 1-4).
© The selection "Combined" is recommended for projects for which the settings of the motor outputs are the same.
If the parameter "Individual" is selected, four single cards become visible for the standard settings of the motor outputs (motor 1, motor 2, ...).

## Selection priority automatic/manual

Selection options: - No

- Yes

With the parameter "Yes" the settings for the priority functions become visible. At the same time the necessary objects appear.

Motor 1... 4
Automatic/manual functions
Selection options: • None

- Priority automatic functions
- Priority manual functions


## - None:

The move commands are carried out in the incoming order sequence.

## - Priority automatic function:

If an automatic command (1 byte move command) occurs before a manual command (1-Bit move command), all manual commands are closed. The objects at the start-up of the intermediate positions 1 and 2 (objects 17-26) are also closed. A manual command is also generated over the local push button inputs or via the radio hand transmitter. However, a turn command ( 1 bit ) can always be made within the parametered turning time. A reset of the priority automatic function occurs when "Priority reset" (66-69) receives " 1 " or " 0 " on the corresponding object. Shifting between priority manual functions (value "0") and priority automatic functions (value "1") is done over the corresponding objects (62-65). After changing over to the corresponding priority the function is again in the reset state. This means that for priority automatic functions the manual commands are blocked only with the next automatic command.
$\triangle$ See chapter 1 Definitions.

## - Priority manual function:

When a manual command (1 bit) occurs before an automatic command (1 byte), all automatic commands are blocked. A manual command is also generated over the local push button inputs or the radio hand transmitter. A reset of the priority manual function occurs when "Priority reset" (66-69) receives "1" or " 0 " on the corresponding object. Shifting between priority manual functions (value "0") and priority automatic functions (value " 1 ") is done over the corresponding objects (62-65). After changing over to the corresponding priority the function is again in the reset state. This means that for priority automatic functions the manual commands are blocked only with the next automatic command.
$\triangle$ See chapter 1 Definitions.
$\triangle$ Over the priority manual function the user has the option of switching off the automatic functions. User comfort can be defined, for example, with a timer. At 8:00 o'clock the priority manual function is activated over the corresponding object (62-65) and the user can move to the desired position using the manual functions until priority automatic functions are switched over at around 17:00 on priority automatic functions toggles. Over the corresponding object (62-65), switching to and from priority manual function and priority automatic function can be done at any time.
$\triangle$ See chapter 1 Definitions.


To set the timer, ideally the façade controller animeo KNX Master Control W2 (Ref. 1860187) or animeo KNX Master Control W8 (Ref. 1860193) can be used.

## Using push button binary input

Selection options: • No

- Yes

With the parameter "Yes", four further menu index cards open (push button binary input 1...4). Now the local push button inputs can be connected over the corresponding objects (70-101). A conventional push button can thus be used for the most different of functions. For example, Switching, Venetian blind function, Dimming or Sending a value.

## Using radio binary input

Selection options: • No

- Yes

With the parameter "Yes" a menu index card opens (General: Radio binary input), over which five further menu index cards can be activated (Radio binary input $1 \ldots 5$ ). Now the radio channels can be connected over the corresponding objects (110-159). A radio transmitter can be used thus for the most different of functions.

## Input group control

Selection options: - Enabled

- Disabled

Over this parameter it is determined whether the input is blocked to the group control or is freed. Over this input all four motors are selected at the same time. Regardless of the parameter settings, the security settings (objects 27-36) have higher priority. If one of the security objects is active, the input to the group control is blocked.
$\triangle$ With a bus power failure this input is freed. Even if it is blocked over the parameter settings it can be used as an emergency service. With bus voltage return this input is blocked according to parameter settings or is freed.

## Slats turn closed/turned

## ONLY WITH VENETIAN BLIND

Selection options: - Max. closed (255) I Max. turned (0)

- Max. closed (0) I Max. turned (255)
- Max. closed (0)/ Max. turned (255)

If a value of "255" to the corresponding object is transmitted (13-16), the slats are closed at maximum.
If a value of " 0 " to the corresponding object is transmitted (13-16), the slats are turned or opened at maximum.

- Max. closed (0)/Max. turned (255)

If a value of " 0 " on the corresponding object is transmitted (13-16), the slats are closed maximum. If a value of "255" on the corresponding object is transmitted (13-16), the slats are turned or opened maximum


### 6.2 Menu index card "Motor 1...4"

| "Motor 1... 4 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1.1.1 animeo KNX 4 AC Motor Controller wM 220-240V X |  |  |  |  |  |  |
| General | Motor 1 |  |  |  |  |  |
| Motor 1 |  |  |  |  |  |  |
| Motor 2 Motor 3 | Type of end product | Ven. blind with EU erg | - | $\checkmark$ |  |  |
| Motor 4 Functions Motor 1 | Running time UP/CLOSE Basis 0,1s (1-3200) | 1200 |  | $\pm$ |  |  |
| Functions Motor 2 Functions Motor 3 | Running time DOWN/OPEN Basis 0,1s (1-3200) | 1200 |  | $\cdots$ |  |  |
| Functions Motor 4 Binary input $1 . \mathrm{A} / \mathrm{B}$ | Complete tiling time Basis 0,05s ( $0-200$ ) | 20 |  | $\pm$ |  |  |
| Binary input $2, \mathrm{C} / \mathrm{D}$ Binay input $3, \mathrm{E} / \mathrm{F}$ | Step length <br> Basis 0,05s (0-200) |  |  | $\cdots$ |  |  |
| Binary input 4, G/H <br> General: Binary inputs 1-4 | Slack compensation Basis 0.05s (0-200) |  |  | $\pm$ |  |  |
| let | Security position Low priority | Ignore security |  | $\checkmark$ |  |  |
| General: Radio binary inputs | Security position High prioitity | Upper end limit |  | $\checkmark$ |  |  |
| Radio binary input 2 <br> Radio binary input 3 <br> Radio binary input 4 <br> Radio binary input 5 | Cyclic monitoring time in sec. (0-255) |  |  | $\pm$ |  |  |
|  |  | OK Cancel | Default | Info | Help |  |

Four single menu index cards (motor $1 \ldots$ ) become visible if in the menu of the basic setting "General" the parameter setting "Individual" is selected. One menu index card (motor 1-4) becomes visible if in the menu of the basic setting "General" the parameter setting "Combined" is selected.

## Type of end product

Selection options: - Venetian blind with EU ergonomics

- Venetian blind with US ergonomics
- Screen, roller shutter, awning
- Window
- Venetian blind with EU ergonomics:

With this parameter it is determined that the Venetian blind in EU ergonomics is selected over the local push button inputs or via the Somfy RTS radio transmitter.
When the local push button inputs are used as universal push button inputs, the operating ergonomics are defined over the corresponding parameters (short/long pressing of the push button). The operating ergonomics using a Somfy RTS radio transmitter remains unchanged.
$\triangle$ For an explanation of EU/US and screen ergonomics see chapter 1 Definitions.

## - Venetian blind with US ergonomics

With this parameter it is determined that the Venetian blind in US ergonomics is selected over the local push button inputs or via the Somfy RTS radio transmitter.
When the local push button inputs are used as universal push button inputs, the operating ergonomics are defined over the corresponding parameters (short/long pressing of the push button). The operating ergonomics using a Somfy RTS radio transmitter remains unchanged.
$\triangle$ For an explanation of EU/US ergonomics and screen ergonomics see chapter 1 Definitions.

## - Screen, roller shutter, awning

With this parameter it is determined that the corresponding blind is selected over move/stop commands when the controlling is done over the local push button inputs or via the Somfy RTS radio hand transmitter.
When the local push button inputs are used as universal push button inputs, the operating ergonomics are defined over the corresponding parameters (short/long pressing of the push button). The operating ergonomics using a Somfy RTS radio transmitter remains unchanged.
$\triangle$ For an explanation of EU/US and screen ergonomics see chapter 1 Definitions.

## - Window

With this parameter it is determined that the corresponding window is selected over move/stop commands when the controlling is done over the local push button inputs or via the Somfy RTS radio hand transmitter.
When the local push button inputs are used as universal push button inputs, the operating ergonomics are defined over the corresponding parameters (short/long pressing of the push button). The operating ergonomics using a Somfy RTS radio transmitter remains unchanged.
$\triangle$ For an explanation of EU/US and screen ergonomics see chapter 1 Definitions.

## Running time UP ICLOSE <br> Basis $0.1 \mathrm{sec}(1-320 \mathrm{sec})$

Selection options:

- 120
- 0.1 - 320 seconds

The time parametered here is the maximum running time from the lower end position to the upper end position, or the maximum running time which a window motor needs to close the corresponding window. An excess time of 5 seconds is always added, except with position telegrams (objects $9-12$ ). If a position telegram with the value " 0 " is sent to the corresponding object, an excess time of 5 seconds is still added to it.

## Running time DOWN /OPEN <br> Basis $0.1 \mathrm{sec}(1-320 \mathrm{sec})$

Selection options: • 120

- $0.1-320$ seconds

The time parametered here is the maximum running time from the lower end position to the upper end position or the maximum running time which a window motor needs to open the corresponding window. An excess time of 5 seconds is always added to it, except with position telegrams (objects 9-12). If a position telegram with the value " 255 " is received on the corresponding object, an excess time of 5 seconds is still added to it.

## Complete tilting time

## Basis $0.05 \mathrm{sec}(0-200)$

Selection options:

- 20
- 0-200 seconds

The parametered time here is the maximum tilting time of the slats. This parameter is only visible when the type of end product, Venetian blind with EU ergonomics or Venetian blind with US ergonomics, have been selected.
$\triangle$ For an explanation of EU/US ergonomics see chapter 1 Definitions.

## Step length

Basis $0.05 \sec (2-200)$
Selection options:

- 20
- 2-200 seconds

The parametered time here is the move time for a turn step. This parameter is only visible when the type of end product, Venetian blind with EU ergonomics or Venetian blind with US ergonomics, have been selected.
$\triangle$ For an explanation of EU/US ergonomics see chapter 1 Definitions.

## Slack compensation

$0.05 \mathrm{sec}(0-200)$
Selection options:

- 20
- 0-200 seconds

The time slack compensation is active as soon as a higher value than " 0 " is entered. The time parametered here defines the time which is added to the parametered complete slats turn to balance out mechanical tolerances. This time is always added with the first UP turn of the slats when the type of end product, Venetian blinds with EU ergonomics or Venetian blinds with US ergonomics, have been selected.
$\triangle$ For an explanation of EU/US ergonomics see chapter 1 Definitions.

## Security position Low priority

Selection options: - Upper end limit

- Lower end limit
- Intermediate position 1 (IP1)
- Intermediate position 2 (IP 2)
- Ignore security
- Stop
- Close window
- Open window

The "Security position low priority" for the corresponding blind is determined with this parameter. If a telegram with the value "1" is received on one of these communication objects (objects 27-31) the corresponding blind moves to the position parametered in the ETS parameters.
If a telegram with the value " 0 " is received on one of these communication objects, no operation is carried out.
If the function "Repeat last telegram after security" is set with "Yes" in the menu index card "Functions motor $1 \ldots 4$ ", the blind moves, after ending of the "Low priority" (value "0"), again in the last position and angle before activation of this priority.

## Security position High priority

Selection options: • Upper end limit

- Lower end limit
- Ignore security
- Stop
- Close window
- Open window

The "Security position high priority" for the corresponding blind is determined with this parameter. If a telegram with the value "1" is received on one of these communication objects (objects 32-36), the corresponding blind moves to the position parametered in the ETS parameters.
If a telegram with the value " 0 " is received on one of these communication objects, no operation is carried out.
If the function "Repeat last telegram after security" is set with "Yes" in the menu index card "Functions motor $1 \ldots 4$ ", it is checked whether "Low priority" is active or inactive. When "Low priority" (value "1") is active the blinds move to the parametered "Security position low priority" (see previous point). If the "Low priority" (value " 0 ") is also inactive, the blind moves again to the last position with the last angle before activating the high and low priorities.

## Cyclic monitoring time in seconds (0-255)

```
Selection options: - 0
    - 0-255 seconds
```

The cyclic monitoring time is active, as soon as a higher value than " 0 " is entered and refers to both security objects, low and high priority.
$\triangle$ With active cyclic monitoring time, attention must be paid to the fact that the time of the cyclic transmitter is lower approx. $1 / 4$ than the parametered cyclic monitoring time for the security objects, low and high priority. If the predefined value "0" remains set, the security objects react statically to the values "1" and "0".

### 6.3 Menu index card "Functions Motor 1...4"

"Functions Motor 1...4"


Four single menu index cards (Functions motor 1 ... 4) become visible if on the menu card index "General", the basic setting of the blinds on "Individual" is parametered. A menu index card (Motor 1-4) becomes visible if on the menu card index "General", the basic setting of the motors is parametered to "Combined".

## Intermediate position 1

UP / DOWN Position (0-100 \%)

```
Selection options: • 0
    - 0-100 seconds
```

With this parameter the intermediate position 1 "UP/DOWN" is defined. The set value in \% refers to the parametered move times of the corresponding blind of the menu index card Motor $1 \ldots$... 4/Motor 1-4.

## Slats position (0-100 \%)

Selection options:

- 0
- 0-100 seconds


With this parameter the intermediate position 1 "slats" is defined. The set value in \% refers to the parametered complete slats turn of the corresponding blind of the menu index card Motor 1 ... 4/Motor 1-4.
© Intermediate position 1 can be learned-in individually via conventional local push buttons, or by a radio handheld transmitter per motor output. In addition, the last learned-in position applies.

Intermediate position 2
UP I DOWN Position (0-100 \%)

```
Selection options:
- 0
- 0-100 seconds
```

With this parameter the intermediate position 2 "UP/DOWN" is defined. The set value in \% refers to the parametered move times of the corresponding blind of the menu indes cards Motor 1...4/Motor 1-4.

## Slats position (0-100 \%)

Selection options:

- 0
- 0-100 seconds

With this parameter the intermediate position 2 "Slats" is defined. The set value in \% refers to the parametered complete slats turn of the corresponding Venetian blind of the menu index card Motor 1...4/Motor 1-4.

## Block position orders (byte) and intermediate position 1

Selection options: • No

- Yes

Position orders (byte) can be blocked per object (57-60) using this parameter. If a telegram with the value "1" is received on the corresponding object during a blinds move, this move is carried out up to the end. Only then are further move commands (byte) blocked. If a telegram with the value " 0 " is received on the corresponding object, the move commands (byte) are released again.

## Block slat orders (byte)

Selection options: • No

- Yes

Slat orders (byte) can be blocked per object (57-60) using this parameter. If a telegram with the value "1" is received on the corresponding object when the Venetian blind is turning, this move is carried out up to the end. Only then are further slat orders (byte) blocked. If a telegram with the value " 0 " is received on the corresponding object, the slat orders (byte) are released again.

## Block UPIDOWN orders (bit)

Selection options: • No

- Yes

UPIDOWN orders (bit) can be blocked per object (57-60) using this parameter. If a telegram with the value " 1 " is received on the corresponding object during a blinds move, this move is carried out up to the end. Only then are further UP/DOWN orders (bit) blocked. If a telegram with the value " 0 " is received on the corresponding object, the UPIDOWN orders (bit) are released again

## Block Step/Stop (bit)

```
Selection options: • No
    - Yes
```

Step/stop and turn commands (bit) can be blocked per object (57-60) using this parameter. If a telegram with the value "1" is received on the corresponding object during a blinds turn, this turn is carried out up to the end. Only then are further turn commands (bit) blocked. If a telegram with the value " 0 " is received on the corresponding object, the step/stop or turn commands (bit) are released again.

## Block local push buttons and Somfy RTS radio orders

```
Selection options: - No
```

    - Yes
    Local push buttons inputs and the Somfy RTS radio signal can be blocked per object (57-60) using this parameter. If a telegram with the value " 1 " is received on the corresponding object during a motor movement, this turn is carried out up to the end. Only after completion are any further commands blocked which are generated via local push button inputs or Somfy RTS radio signals. If a telegram with the value "0" is received on the corresponding object, the local push button inputs and Somfy RTS radio signals are freed again.

## Repeat last telegram after security

```
Selection options: • No
    - Yes
```

If this parameter is set to "Yes", the last move command is repeated after security. This means that it will move to the position which was active before a telegram with the value "1" was input to one of the corresponding security objects, low or high.

### 6.4 Menu index card "Push button binary input 1...4"

"Push button binary input 1...4"


## General information for push button binary input

Four different basis functions can be selected for each push button input:

- Venetian blind UP/ DOWN
- Switch dry contact
- 8 -Bit value (rising edge)
- Dimming

The single functions and parameters will be explained which arise depending on the selection of the basis function. For this, another basis function has been selected for each push button. The functions are described with the help of the input 1 contact A/B and are identical for the inputs 2-4, contacts C/D, E/F and G/H.

For the basis function "Venetian blind UP/ DOWN" attention must be paid to which contact "UP" or "DOWN" is switched. The same applies with selection basis function "Dimming", for "Brighter" or "Darker" dimming. The pre-setting of the basis function for the menu index card push button $1 \ldots 4$ is Venetian blind UP / DOWN.

## Basic function

Selection options: - Venetian blinds UP/DOWN

- Switch dry contact
- 8-Bit value (rising edge)
- Dimming


## After long pressing of push button

Selection options:

- 0.5 seconds
- 0.3-5.0 seconds

This parameter defines the activity time of the corresponding push button which distinguishes between the sending of a short-term telegram (step/stop) and a long-term telegram (UP/DOWN). If the time, for example, is set on 0.5 seconds, a long-term telegram is generated first with a longer pressing of the push button which is longer than 0.5 seconds. With a shorter activation which is smaller than 0.5 seconds, a short-term telegram is generated.

## Type of contact input A

Selection options: - Normally open

- Normally closed

Over this parameter it is defined which type of contact is at the local input A. Normally open: The contact at the local input is activated closed and not activated opened. Normally closed: The contact at the local input is activated opened and not activated closed.

## Type of contact input B

```
Selection options: - Normally open
    - Normally closed
```

Over this parameter it is defined which type of contact is at the local input B. Normally open: The contact at the local input is activated closed and not activated opened. Normally closed: The contact at the local input is activated opened and not activated closed.
"Push button binary input 1...4"


## Basic function

Selection options: - Venetian blinds UP / DOWN

- Switch/Dry contact
- 8 -Bit value (rising edge)
- Dimming


## Edge evaluation contact A

Selection options: - Rising ON, falling OFF

- Rising OFF, falling 0N
- Rising ON
- Falling 0 N
- Rising OFF
- Falling 0FF

0n ("1") Off ("0") Toggle ("1/0")

- Rising toggle
- Falling toggle
- Rising toggle, falling toggle
- No evaluation

The corresponding object value " 0 " or " 1 " is generated depending on which edge evaluation is parametered.

## - Rising ON, falling OFF

If a rising edge at the local input appears, the object value " 0 n " is generated. If a falling edge at the local input appears, the object value "Off" is generated. The duration of the activation is not evaluated.

## - Rising OFF, falling ON

If a rising edge at the local input appears, the object value "Off" is generated. If a falling edge at the local input appears, the object value " $0 n$ " is generated. The duration of the activation is not evaluated.

## - Rising ON

If a rising edge at the local input appears, the object value " $0 n$ " is generated. If a falling edge at the local input appears, it is not evaluated. The duration of the activation is not evaluated.

## - Falling 0 N

If a rising edge at the local input appears, the object value " $0 n$ " is generated. If a rising edge at the local input appears, it is not evaluated. The duration of the activation is not evaluated.

- Rising 0FF

If a rising edge at the local input appears, the object value "Off" is generated. If a falling edge at the local input appears, this is not evaluated. The duration of the activity is not evaluated.

## - Falling OFF

If a falling edge at the local input appears, the object value "Off" is generated. If a rising edge at the local input appears, this is not evaluated. The duration of the activity is not evaluated.

## - Rising toggle

If a rising edge at the local input appears, the object value is inverted. If a falling edge at the local input appears, this is not evaluated. The duration of the activity is not evaluated.

## - Falling toggle

If a falling edge at the local input appears, the object value is inverted. If a rising edge at the local input appears, this is not evaluated. The duration of the activity is not evaluated.

## - Rising toggle, falling toggle

If a rising or falling edge at the local input appears, the object value is inverted. The duration of the activity is not evaluated.

## - No evaluation

If a rising or falling edge at the local input appears, this is not evaluated.

## Edge evaluation Contact B

Selection options: - Rising ON, falling OFF

- Rising OFF, falling ON
- Rising ON
- Falling ON
- Rising OFF
- Falling 0FF 0n ("1") 0ff ("0") Toggle ("1/0")
- Rising toggle
- Falling toggle
- Rising toggle, falling toggle
- No evaluation


## Send starting value on bus power return

Selection options:

- Yes
- No

If this parameter is stopped, the current state of the input is transmitted with the bus voltage return. If this parameter is set to "No", the current state of the input is not transmitted.

## Contact A und B

Cyclic sending of status
Selection options:

- No cyclic sending
- ON
- OFF
- ON and OFF

With this parameter it is defined whether the corresponding switch value of the communication object should be transmitted cyclically.

## - No cyclic sending

The switching value of the communication object is not transmitted cyclically.

- ON

If the object value is "1", this is transmitted cyclically. If the object value changes by edge change at the local input or reception of a telegram on " 0 ", the cyclic sending stops.

- OFF

If the object value is " 0 ", this is transmitted cyclically. If the object value changes by edge change at the local input or reception of a telegram on " 0 ", the cyclic sending stops after " 1 ".

- ON and OFF

If the object value is "1" or "0", this is transmitted cyclically. If the object value changes by edge change at the local input or with reception of a telegramme, the current object value is transmitted cyclically.

## Cyclic sending in seconds (1-3600)

## Selection options:

- 5
- 1-3600

With this parameter the time intervals are defined in which the corresponding object value should be transmitted cyclically.
. Please note that cyclical supervision time of the receiver is approx. 1/4 higher than that of the transmitter.
"Push button binary inputs 1...4"


## Basic function

```
Selection options: - Venetian blind UP/DOWN
- Switch/Dry contact
- 8-Bit value (rising edge)
- Dimming
```


## Contact A

Value on rising edge (0-255)
Selection options:

- 0
- 0-255

With this parameter the value is set which is transmitted with a rising edge to the local input A.

## Contact type input A

Selection options:

- Normally open
- Normally closed

With this parameter it is defined which contact type is at the local input A. Normally open: The contact at the local input is activated closed and not activated opened. Normally closed: The contact at the local input is activated opened and not activated closed.

## Contact B

Value on rising edge (0-255)
Selection options:

- 0
- 0-255

With this parameter the value is set which is transmitted with a rising edge at the local input B .

## Contact type input B

Selection options: $\quad$ - Normally open

With this parameter it is defined which contact type is at the local input B. Normally open: The contact at the local input is activated closed and not activated opened. Normally closed: The contact at the local input is activated opened and not activated closed.
"Push button binary input 1...4"


## Basic function

Selection options:

- Venetian blind UP/DOWN
- Switch/Dry contact
- 8-Bit value (rising edge)
- Dimming


## Longer operation (dimming) after

## Selection options: <br> - 0.5 seconds <br> - 0.3-0.5 seconds

This parameter defines the activity time of the corresponding push button which makes a distinction between the sending of a switching telegram and a dimming telegram. If the time, for example, is parametered on 0.5 seconds, a dimming telegram is generated only after a press activation longer than 0.5 seconds is made. With a pressing shorter than 0.5 seconds a switch telegram is generated.

## Input A/B

Selection options: |  | - On/Off | On ("1") 0 Off ("0") Toggle ("1/0") |
| :--- | :--- | :--- |

This parameter defines the value which is transmitted with a short pressing of the corresponding input.

## - On/Off

With a short pressing of the push button at the input A , an "Off" telegram is generated. With a short activity of the corresponding push button at the input $B$, an " $0 n$ " telegram is generated. This function can be inverted by changing over the clamps at the inputs.

## - Toggle/Toggle

Switching over can be done with a short pressing of the push button at the input A or B. This means that the value which is in the corresponding switching object is firstly inverted and is then transmitted.

## Contact type input A

Selection options: - Normally open

- Normally closed

With this parameter it is defined which contact type is at the corresponding local input. Normally open: The contact at the local input is activated closed and not activated open. Normally closed: The contact at the local input is activated open and not activated closed.

## Contact type input B

```
Selection options: - Normally open
- Normally closed
```

With this parameter it is defined which contact type is at the corresponding local input. Normally open: The contact at the local input is activated closed and not activated open.
Normally closed: The contact at the local input is activated open and not activated closed.

## Dimming with

Selection options: - Cyclic intervals

- Stop telegram


## - Cyclic intervals

With a short pressing of the push button at the local input A or B , an "On" or an "Off" telegram is generated over the corresponding object (1 bit). With a long pressing of the push button at the local input A brighter dimming is done over the corresponding object ( 4 bit) as long as the push button is pressed. When the push button is released on the local input A cyclical sending is stopped. The length of steps and the time duration for brighter dimming is made from the parameters "longer push button pressing (dimming)" and "interval for cyclical dimming".
With a long pressing of the push button at the local input B , darker dimming is done over the corresponding object ( 4 bit ) as long as the push button is pressed. When the push button is released on the local input $B$, cyclical sending is stopped. The length of steps and the time duration for darker dimming is made from the parameters "longer push button pressing (dimming)" and "interval for cyclical dimming".

## - Stop telegram

With a short pressing of the push button at the local input A or $B$, a telegram is generated over the corresponding object (1 bit).
With a long pressing of the push button at the local input A brighter dimming is done over the corresponding object ( 4 bit). With a long pressing of the push button at the local input $B$, darker dimming is done over the corresponding object ( 4 bit ). When the corresponding push button at the local input A or B is released, a stop command is generated.

## Long operation (dimming)

Selection options: - Adjust by $100 \%$

- Adjust by $1 / 2$
- Adjust by $1 / 4$
- Adjust by $1 / 8$
- Adjust by $1 / 16$
- Adjust by $1 / 32$
- Adjust by $1 / 64$

This parameter defines the dimming length of steps of the telegrams which are transmitted with a longer pressing.
© When "Dimming with cyclic intervals" is parametered, attention must be paid to the fact that the dimming length of steps and the interval for the cyclical dimming are matched to the dimming time of the actuator.

## Interval for cyclic dimming

Selection options: - 0.5 seconds

- 0.5-7.0 seconds

This parameter defines the duration of an interval for cyclical sending. If, for example, a "change $1 / 4$ " and an "interval of 0.5 seconds" is set, then with a longer pressing of the push button on the corresponding local input, every 0.5 seconds $1 / 4$ brighter or darker will be dimmed.

### 6.5 Menu index card "General: Push button binary inputs 1-4"

"General: Push button binary inputs 1-4"


The parameters set here refer to the push button inputs 1-4.

## Additional start-up delay

Selection options: - 0 seconds

- 0-21 seconds

This parameter defines the time which is needed after bus voltage return, until the first telegram can be transmitted.

## Limit number of telegrams

Selection options: - Yes

- No

This parameter opens the parameter to set the telegram rate limitation. In addition, the number of the telegrams which are transmitted cyclically per time unit can be limited.

## Limit

Selection options: - 30 telegrams per 17 sec .

- 60 telegrams per 17 sec.
- 100 telegrams per 17 sec.
- 127 telegrams per 17 sec.

This parameter defines the number of the telegrams which can be transmitted within 17 seconds.

### 6.6 Menu index card "Electronic Motors"

## "Electronic Motors"



On this menu index card a start-up delay can be set for every single motor output.

## Start delay Motor 1... 4

Selection options:

- 0 seconds
- 0-100 seconds

This parameter defines the required start-up time of an applied electronic motor, as for examle, Somfy WT motor 200 ms .

If electronic motors are controlled using this Motor Controller, it is imperative to set the start delay time of the electronic motor in the settings of the Motor Controller device.

### 6.7 Menu index card "Bus safety"



On this menu index card, the reaction can be defined for every single motor output with bus power failure and bus power return.

MOTOR 1... 4
Reaction at bus power failure
Selection options: • Upper end limit

- Lower end limit
- Ignore
- Intermediate position 1 (IP 1)
- Intermediate position 2 (IP 2)
- Close window
- Open window

MOTOR 1... 4
Reaction at bus power return
Selection options: • Upper end limit

- Lower end limit
- Ignore
- Intermediate position 1
- Intermediate position 2
- Window close
- Window open
- Ignore

This parameter defines the position which is moved to with a bus power failure.

MOTOR 1... 4
Reaction at mains power return (230 V)
Selection options: • Upper end limit

- Lower end limit
- Ignore return
- Close window
- Open window

This parameter defines the position which is moved to with a mains power return ( 230 V ).

## Automatic Cascading

```
Selection options: • No
    - Yes
```

If this parameter is set on "Yes", the motor outputs with one second delay in each case move to the corresponding position. This delay time is taken into account with the start-up of the positions, which are generated from the settings "Reaction with bus voltage return" and "Reaction with mains voltage return ( 230 V )".
$\triangle$ Advantage: Power spikes can thus be reduced in larger projects.

### 6.8 Menu index card "Feedback motor positions"

"Feedback motor positions"


On this menu index card the parameters can be selected to announce the position status of the individual blinds on the bus. In addition, the generated status positions are based on the parametered move times and turn times of the menu index cards motor 1... 4 or motor 1-4.

## Feedback of status

## Upper/lower end positions

| Selection options: | This parameter opens the parameter |  |
| :--- | :--- | :--- |
|  | - Yes | "Type of messaging". |

## Type of feedback

Uper/lower end positions

```
Selection options: - Combined if all are up/down
    - Individual
```


## - Combined if all are up/down

If this parameter is selected, the corresponding upper or lower end position is only announced on the bus, when all four blinds have reached the upper (object 51) or lower (object 56) end position.

## - Individual

If this parameter is selected, the corresponding upper or lower end position is announced on the bus for each blind individually. Here, the objects in each case (47-49 and 52-55) are made availaible.

## MOTOR 1... 4

## Feedback of

Selection options:

- UP/DOWN position
- Slat position
- UP/DOWN and slat position
- None



## - UPIDOWN position

Using this parameter the position UP/DOWN is sent on the bus for the corresponding motor depending on the parameter "Type of messaging" "0" = upper / " 255 " = lower.

## - Slat position

With this parameter the slat position is transmitted for the corresponding motor depending on the parameter "Type of messaging" on the bus. " $0 / 255$ " = slats opened / "255/0" = slats closed. The value for the position of the slats which is transmitted over the corresponding object is dependent on the parameter settings on the menu index card "General".
Slats turn Closed/Turned ONLY WITH VENETIAN BLIND.

## - UP/DOWN and slat position

With this parameter the position UP/DOWN and the position of the slats for the corresponding motor is transmitted on the bus depending on the parameter "Type of messaging". "0" = upper / " 255 " = lower, "0/255" = slats opened / "255/0" = slats closed. The value for the position of the slats which is transmitted over the corresponding object is dependent on the parameter settings on the menu index card "General".
Slats turn Closed/Turned ONLY WITH VENETIAN BLIND.

## - None

No positions on the bus are messaged.

MOTOR 1... 4
Type of feedback

```
Selection options: - On demand
    - Status change
    - Cyclic
```

- On demand

The current position of the blinds must be requested over object 46 .

## - Status change

The current position of the corresponding blind is transmitted after every position change on the bus. The position is transmitted on the bus when the destination position is reached.

- Cyclic

This parameter opens a further parameter ("Every") with which the time for cyclical sending is set.

## Every

Selection options:

- 5 seconds
- 10 seconds
- 20 seconds
- 30 seconds
- 60 seconds
© With this parameter it is defined in which time intervals the current position of the corresponding blinds are messaged. The current position of the blinds is transmitted on the bus only during the move.


### 6.9 Menu index card "General: Radio binary input"

"General: Radio binary input"


## General information for radio input

For every radio input there are five different basis functions for selection:
Selection options: • Venetian blind UP/DOWN

- Switch/Dry contact
- 8-Bit value (rising edge)
- Dimming
- Venetian blind slow tilting

The single functions and parameters which arise depending on the selection of the basis functions are now described. To illustrate this, another basis function has been selected for each radio input. The functions are described with the help of the radio input 1 (channel A) and are identical for the radio inputs $2-5$ (channel $B, C, D$ and $E)$.

The preset, default of the basis function for the menu index card radio input $1 \ldots 5$ is Venetian blinds UP / DOWN.

## Radio binary input 1... 5

For every radio input there are five different basis functions for selection:
Selection options:

- No
- Yes

With the parameter "Yes" additional menu index cards "Radio binary input $1 \ldots .5$ " become visible. At the same time the necessary objects for this appear.

### 6.10 Menu index card "Radio binary input 1...5"

"Radio binary input 1...5"


## Basic function

## Selection options: <br> - Venetian blind UP/DOWN

- Switch/Dry contact
- 8-Bit value (rising edge)
- Dimming
- Venetian blind turn slowly


## Long operation move after

Selection options: - 0.5 seconds

- 0.3...5.0 seconds

This parameter defines the activity time of the corresponding transmitter push button which distinguishes between the sending of a short-term telegram (Step/Stop) and a long-term telegram (UPI DOWN). If the time, for example, is parametered on 0.5 seconds, then only after a pressing of more than 0.5 seconds is a long-term telegram generated. With a pressing of the push button which is shorter than 0.5 seconds, a short-term telegram is generated.

## Functionality of the "my" push button

Selection options: - 1-Bit value

- 8-Bit value
- No function (no evaluation)


## Functionality of the "my" push button <br> 1-Bit value

Selection options:

- On
- Off
- Toggle

On ("1") Off ("0") Toggle ("1/0")

- No function
- On

If the "my" button in the radio transmitter is pressed, the object value " 0 n " is generated. The duration of the activity is not evaluated.

- Off

If the "my" button in the radio transmitter is pressed, the object value "0ff" is generated. The duration of the activity is not evaluated.

- Toggle

If the "my" button in the radio transmitter is pressed, the object value "At" is generated. The duration of the activity is not evaluated.

- No function

If the "my" button in the radio transmitter is pressed, this is not evaluated.

## 8-Bit value (Rising edge)

Selection options:

- 0
- 0-255
- 0-255

With this parameter the value is set which is transmitted while pressing the "my" button in the radio transmitter.

- No function (no evaluation)

If the "my" button in the radio transmitter is pressed, this is not evaluated.
"Radio binary input 1...5"


## Basic function

Selection options: • Venetian blind UP/DOWN

- Switch/Dry contact
- 8-Bit value
- Dimming
- Venetian blind slow tilting


## Function of the "UP" button

Selection options:

- On
- Off
- Toggle

On ("1") Off ("0") Toggle ("1/0")

- No function
- On

If the "my" button in the radio transmitter is pressed, the object value " 0 n " is generated. The duration of the activity is not evaluated.

- Off

If the "my" button in the radio transmitter is pressed, the object value "Off" is generated. The duration of the activity is not evaluated.

- Toggle

If the "my" button in the radio transmitter is pressed, the object value "At" is generated. The duration of the activity is not evaluated.

- No function

If the "my" button in the radio transmitter is pressed, this is not evaluated.

## Functionality of the "DOWN" button

| Selection options: | - On |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  | - Off | On ("1") | off ("0") | At ("1/0") |
|  | - No function |  |  |  |

## Functionality of the "my" button

| Selection options: | - 1 -Bit value |
| :--- | :--- |
|  | - 8 -Bit value |
|  | - No function |

For a description please see "Function of the "my" button with Venetian blind UP/DOWN".
"Radio binary input 1...5"


## Basic function

Selection options: - Venetian blind UP/DOWN

- Switch/Dry contact
- 8-Bit value
- Dimming
- Venetian blind slow tilting


## Function of the "UP" button

Selection options:

- 0
- 0-255

0-255
With this parameter the value is set which is transmitted while pressing the "UP" button in the radio transmitter.

## Function of the "DOWN" button

Selection options:

- 0
- 0-255

For a description please see "Function of the "UP" button with 8-Bit value".

Function of the "my" button
$\begin{array}{ll}\text { Selection options: } & \text { - } 1 \text {-Bit value } \\ & \text { - } 8 \text {-Bit value } \\ & \text { - No function (no evaluation) }\end{array}$
For a description please see "Function of the "UP" button with "Venetian blind UP/DOWN".
"Radio binary input 1...5"


## Basic function

Selection options: - Venetian blind UP/DOWN

- Switch/Dry contact
- 8-Bit value
- Dimming
- Venetian blind slow tilting


## Long operation after

Selection options: $\quad$ - 0.5 seconds

This parameter defines the pressing time of the corresponding transmitter push button (Up/Down) which makes a distinction between the sending of a short-term telegram (0n/Off) and a long-term telegram (Brighter/darker dimming). If the time, for example, is set at 0.5 seconds, a long-term telegram is generated after a longer pressing than 0.5 seconds. With a pressing duration which is shorter than 0.5 seconds, a short-term telegram is generated.

## Dimming brighter/darker for

Selection options: $\quad$ - Adjust 1/8

This parameter defines the dimming step length which is transmitted as a telegram with a long pressing of the push button.

## Functionality of the "my" push button

| Selection options: | - 1 -Bit value |
| :--- | :--- |
|  | • 8 -Bit value |
|  | - No function |

For a description please see "Function of the "my" button with Venetian blind UP/DOWN".
"Radio binary input 1...5"


## Basic function

Selection options: - Venetian blind UP/DOWN

- Switch/Dry contact
- 8-Bit value
- Dimming
- Venetian blind slow tilting


## Long operation (move) after

Selection options: $\quad$ - 0.5 seconds

This parameter defines the pressing time of the corresponding transmitter push button (Up/Down) which makes a distinction between the sending of a short-term telegram (Up/Down) and a long-term telegram (Open/Close). If the time, for example, is set at 0.5 seconds, a longterm telegram is generated after a longer pressing than 0.5 seconds. With a pressing duration which is shorter than 0.5 seconds, a shortterm telegram is generated.

## Tilt slats (open/close) slowly by

Selection options: - Adjust 1/8

- Adjust $100 \%$... 1/64

This parameter defines the turn of the Venetian blinds which is transmitted as a telegram with a long pressing of the push button.

## Functionality of the "my" push button

| Selection options: | - 1 -Bit value |
| :--- | :--- |
|  | - 8 -Bit value |
|  | - No function (no evaluation) |

For a description please see "Function of the "my" button with Venetian blind UP/DOWN".

## 7. Diagnosis

### 7.1 LEDS on the animeo KNX Motor Controller

The LEDs on the animeo KNX Motor Controller can be used for the following functions:

- Functionality of the device during operation ( $230 \mathrm{~V} / \mathrm{KNX}$ bus voltage connected, indication via radio signals, ...)
- A limited overview of the settings


### 7.2 Informationen during operation

Safety low/high or object "block function" is active
The device is ready for operation, display reception KNX telegram


### 7.3 Status of the configuration

© The call-up of the status of configuration is possible only in the delivery state, before the device was programmed with the ETS. As soon as the device is programmed with the ETS, the status of the configuration can no longer be called up over the Reset/Prog button. When the device is unloaded by the ETS, the status of the configuration can be called up again over the Reset/Prog button. A call-up of the status is always possible over radio functionality (green upper LED).

| LED | On (2 s) | Blinking |
| :--- | :--- | :--- |
| •)) $)=$ Green | Radio operation acknowledged | No radio operation |
| SCR = Yellow | Vertical awning with saved move and turn times | Vertical awning without saved move and turn <br> times |
| EU = Orange | Venetian blinds EU ergonomics with <br> saved move and turn times | Venetian blinds EU ergonomics without <br> saved move and turn times |
| US $\quad=$ Red | Venetian blinds US ergonomics with <br> saved move and turn times | Venetian blinds US ergonomics without <br> saved move and turn times |

$\triangle$ For an explanation of EU/US ergonomics see chapter 1 Definitions.

## 8. Push button configuration of the radio transmitters

|  |  | Venetian blind UP/DOWN | Switch (1 bit) | 8-Bit value | Dimming/Venetian blinds turn slowly |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | UP button | UP / Step / Stop | ON / OFF / Toggle / No function | VALUE | ON/ Brighter |
| 2 | "my" button | ON / OFF / Toggle / VALUE/ No function |  |  |  |
| 3 | DOWN button | DOWN / Step/Stop | ON / OFF / Toggle / No function | VALUE | OFF/ Darker |



|  |  | Venetian blind UP/DOWN | Switch (1 bit) | 8-Bit value | Dimming/Venetian blind slow tilting |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | UP button | UP/Step / Stop | ON / OFF / Toggle / No function | VALUE | ON / Brighter |
| 2 | "my" button | ON / OFF / Toggle / VALUE / No function |  |  |  |
| 3 | DOWN button | DOWN / Step/Stop | ON / OFF / Toggle / No function | VALUE | OFF/ Darker |
| 4 | Scroll wheel | Step/Stop | --- | --- | Brighter / Darker |



## 9. Technical data

| animeo KNX 4 AC Motor Controller | WM Ref. 1860114 | DRM Ref. 1860116 |
| :---: | :---: | :---: |
| Power supply | 220-240 V AC/ 50/60 Hz | 220-240 V AC/ $50 / 60 \mathrm{~Hz}$ |
| Standby current (IEC 62301) | 6 mA @ 230 VAC | 6 mA @ 230 VAC |
| Standby power (IEC 62301) | <0.5 W@230 V AC | <0.5 W@230 V AC |
| KNX power supply | KNX bus voltage 21... 30 V DC, SELV | KNX bus voltage 21... 30 V DC, SELV |
| KNX nominal power input | according to KNX guidelines, 10 mA | according to KNX guidelines, 10 mA |
| Max. power input (motor) | $4 \times 3,0$ A, $\cos \_\varphi=0.95$ | $4 \times 3,0$ A, cos_ $\varphi=0.95$ |
| Voltage of combined inputs | SELV, 16 VDC $=$ | SELV, 16 VDC = |
| Voltage of local push button inputs | SELV, 16 VDC $=$ | SELV, 16 VDC $=$ |
| Output fuse | $4 \times \mathrm{F} 3,15 \mathrm{AH}$ | $4 \times \mathrm{F} 3,15 \mathrm{AH}$ |
| Connection | Spring connectors | Spring connectors |
| Connection KNX | bus terminals (black/red) | bus terminals (black/red) |
| Running time motor (switch time relay) | max. 5 minutes | max. 5 minutes |
| Operating temperature | $0^{\circ} \mathrm{C}-45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}-45^{\circ} \mathrm{C}$ |
| Relative air humidity | 85 \% | 85 \% |
| Housing material | CC-ABS Polycarbonate | CC-ABS Polycarbonate |
| Housing measurements ( x W $\mathrm{X} \times$ D) | $180 \times 255 \times 63 \mathrm{~mm}$ | $90 \times 210 \times 63 \mathrm{~mm}$ (12TE) |
| Protection degree | IP 20 | IP 20 |
| Protection class | II, looped through PE connector, depending on installation |  |
| Conformity | www.somfy.com/CE | www.somfy.com/CE |

The Motor Controller is an electronically and manually-operated, independently-mounted control.

Software class:
Action:
Pollution degree:
Rated impulse voltage:
Temperature of ball hardness test:
Type of fixing:
Type of fixing for permanently connected wiring:
EMV interference emission check:

A
Type 1
2
4 kV
$75^{\circ} \mathrm{C}$
Type X
Screwless spring terminal
$\mathrm{U}_{\mathrm{AC}}=230 \mathrm{~V} \mathrm{AC} \quad \mathrm{I}_{\mathrm{AC}}=0.5 \mathrm{~A}($ EN 55022 transmission class $B)$

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