

State 05/2022

## MDT Solution proposal

### Automatic shading with the MDT Shutter Actuator or Universal Actuator.

#### Info:

Current MDT shutter and universal actuators have the function for automatic shading directly integrated. The sun position is continuously calculated, which means that only those windows exposed to the sun are shaded during the day. For this to work, the actuator needs the brightness values, for example from the MDT weather station, in addition to the location. The date and time required for the calculation can be received from an MDT Time Switch or an MDT IP Interface, for example. At the [end](#) of this document, you will find an overview of all MDT devices that can provide the time to the KNX bus.

**Hint:** In this solution proposal, we assume that the shutter or universal actuator has already been put into operation with its basic functions. This includes in particular the correctly set movement times for up/down and the slat adjustment time. These are either determined manually using a stopwatch and entered in the ETS or automatically saved for actuators with movement time measurement. Further information on the procedure can be found in the technical manual of your actuator.

Used devices in this solution proposal:

MDT Shutter Actuator  
JAL-0410.02

This solution proposal is transferable to all MDT actuators with the "Automatic shading" function. The function names may differ.

## Content

1 Assumption for this example: .....	3
2 Activate the shading function: .....	3
2.1 General setting: .....	3
2.2 Shading basic setting: .....	4
3 Diagnostic objects: .....	5
3.1 Diagnostic object for shading: .....	5
3.2 Channel-specific diagnosis: .....	5
4 Settings Channel A (East), Blind:.....	6
5 Settings Channel B (South), Blind: .....	8
5.1 Air function (Patio door): .....	8
5.1.1 Preparation: .....	8
5.1.2 Settings: .....	10
6 Settings Channel C (West), Roller Shutter Scenes:.....	11
6.1 Scene settings: .....	12
6.2 Using the KNX Scenes: .....	12
7 Linking the group addresses: .....	13
8 List of all MDT devices with time function: .....	14

## 1 Assumption for this example:

For the solution proposal, let's assume the following situation:

East facade: There are blinds on the east facade (channel A). In the morning, the slats should provide enough shade to prevent direct sunlight from entering the rooms. After the end of shading, the slats should turn horizontally but remain down.

South facade: There are also blinds on the south facade (channel B). In addition, a patio door with two door contacts is located here.

West facade: Roller shutters are installed on the west facade (channel C). During shading, these are to move to two different scene positions and open after shading. The positions of the scenes can be overwritten. Feature: The sun sets behind a mountain on the west side.

## 2 Activate the shading function:

### 2.1 General setting:

The automatic shading must first be activated globally.

1.1.1 JAL-0410.02 Shutter Actuator 4-fold, 4SU, 230VAC > General setting	
General setting	Startup time <input type="text" value="2"/> s
Shading basic setting	Manual operation device <input type="text" value="active"/>
Channel selection	Eco mode, switch LED's off after <input type="text" value="not active"/>
Channel A: Blinds	Send "Operation" cyclically <input type="text" value="not active"/> min
Channel A: Alarm and block functions	Overwrite learned scenes <input type="radio"/> retain lerned scenes <input checked="" type="radio"/> load parameter
	Automatic Shading <input type="radio"/> not active <input checked="" type="radio"/> active

## 2.2 Shading basic setting:

First, we set the amount of brightness values and their thresholds. The MDT weather station we are using provides 2-byte values for east, south and west, so we set the number of objects to **[3]**. The values for brightness thresholds 1 and 2 are individual and must be adjusted to your own needs **(1)**. If the automatic shading starts too early, increase the lux values, for example. Make sure that the brightness threshold 1 remains lower than brightness threshold 2. If, for example, a roller shutter moves up and down too frequently when clouds pass by, increase the delay times between the thresholds.

To make optimal use of the solar energy in the cold months, the outside temperature can be used to lock the shading. To do this, set the desired temperature up to which the shading should be locked **(2)**.

The shutter actuator requires the location of the installation to calculate the exact position of the sun. You can select a predefined location from the list or set it precisely by coordinates **(3)**.

The diagnostic object is an important tool for commissioning and troubleshooting and should be set to [send at change] during initial commissioning **(4)**.

1.1.1 JAL-0410.02 Shutter Actuator 4-fold, 4SU, 230VAC > Shading basic setting	
General setting	
<b>Shading basic setting</b>	
Channel selection	
Channel A: Blinds	
Channel A: Alarm and block functions	
Channel A: Automatic Shading	
Channel B: Blinds	
Channel B: Alarm and block function	
Channel B: Advanced block function	
Channel B: Air function	
Channel B: Automatic Shading	
Channel C: Shutter	
Channel C: Alarm and block functions	
Channel C: Scenes	
Channel C: Automatic Shading	
	Brightness values over <input checked="" type="radio"/> brightness value 2Byte <input type="radio"/> brightness threshold 1Bit
	Number of objects <input type="text" value="3"/>
	brightness threshold 1 <input type="text" value="15"/> x 1000 Lux
	brightness threshold 2 <input type="text" value="25"/> x 1000 Lux <b>1</b>
	Hysteresis <input type="text" value="5"/> x 1000 Lux
	Delay of brightness threshold 1 to 2 (from HW R5.0) <input type="text" value="2"/> min
	Verzögerung der Helligkeitsschwelle 2 nach 1 (ab HW R5.0) <input type="text" value="15"/> min
	Outdoor temperature block <input checked="" type="radio"/> temperature value <b>2</b>
	Block clouding at temperature less than <input type="text" value="12"/> °C
	Function of central object "Clouding" <input checked="" type="radio"/> block clouding at value 1 <input type="radio"/> enable clouding at value 1
	Automatic switchover of summertime <input type="radio"/> not active <input checked="" type="radio"/> active
	Location determination over <input type="radio"/> coordinates <input checked="" type="radio"/> place
	Country <input type="text" value="Germany"/> <b>3</b>
	Town <input type="text" value="Engelskirchen"/>
	Time different to world time (UTC + ...) <input type="text" value="(UTC +01:00) Amsterdam, Berlin, Bern, Rome, Vienna"/>
	Objects for Date/Time <input checked="" type="radio"/> separate objects <input type="radio"/> one common object
	Diagnostic object for Shading <input checked="" type="text" value="send at change"/> <b>4</b>

### 3 Diagnostic objects:

#### 3.1 Diagnostic object for shading:

If the diagnostic object - as described in chapter 2.2 - is activated, it provides important information for error diagnosis in the ETS.

##### Example 1: ERR: Date

- ➔ The actuator has been programmed and has not yet received the date and time necessary to calculate the position of the sun. This is the message with the highest priority.

##### Example 2: M1 S1 A210 E35

**Mx:** Provides information about the status of the automatic shading. The following table provides an overview of the possible states. Automatic shading is therefore only possible in the **M1** state.

	Release shading	Lock shading	Outdoor temperature lock
<b>M0</b>	not active	not active	not active
<b>M1</b>	active	not active	not active
<b>M2</b>	not active	active	not active
<b>M3</b>	active	active	not active
<b>M4</b>	not active	not active	active
<b>M5</b>	active	not active	active
<b>M6</b>	not active	active	active
<b>M7</b>	active	active	active

**Sx:** Displays the currently exceeded brightness threshold.

<b>S0</b>	No brightness threshold reached
<b>S1</b>	Brightness threshold <b>1</b> is exceeded
<b>S2</b>	Brightness threshold <b>2</b> is exceeded

**Axxx:** Sun [azimuth] in degrees

<b>A210</b>	The current sun angle is <b>210</b> degrees
-------------	---

**Exx:** Sun [elevation] in degrees

<b>A35</b>	The current sun elevation is <b>35</b> degrees
------------	--

#### 3.2 Channel-specific diagnosis:

In addition to the diagnostic object of the automatic shading described in Chapter 3.1, the channel-specific diagnostic object provides further helpful information. For instance, about an active shading [Auto Sun Position] or an open window [Window open]. For more information, please refer to the manual of the actuator used.

#### 4 Settings Channel A (East), Blind:

1.1.1 JAL-0410.02 Shutter Actuator 4-fold, 4SU, 230VAC > Channel A: Automatic Shading	
General setting	Can only be used if "Automatic Shading" is activated in the "General setting" menu!
Shading basic setting	Shading <b>1</b> <input type="radio"/> disabled (settings are retained) <input checked="" type="radio"/> enabled
Channel selection	Compass direction east
Channel A: Blinds	Clouding active if azimuth <b>2</b>
Channel A: Alarm and block functions	from 30° (default)
	to 150° (default)
<b>Channel A: Automatic Shading</b>	Shading active if elevation <b>3</b>
Channel B: Blinds	from 2
Channel B: Alarm and block function	to 90
Channel B: Advanced block function	Delay until Shading On 2 min
Channel B: Air function	Delay until Shading Off 20 min
	Release via (temperature/control value) not active

Automatic shading is activated per channel **(1)**. After preselecting the compass direction of the window to be shaded, the exact horizontal angles [azimuth] **from** → **to**, can be set in degrees **(2)**. Websites that show the course of the sun on a map are a useful tool. After entering your location, you can read off the exact values.

Example:

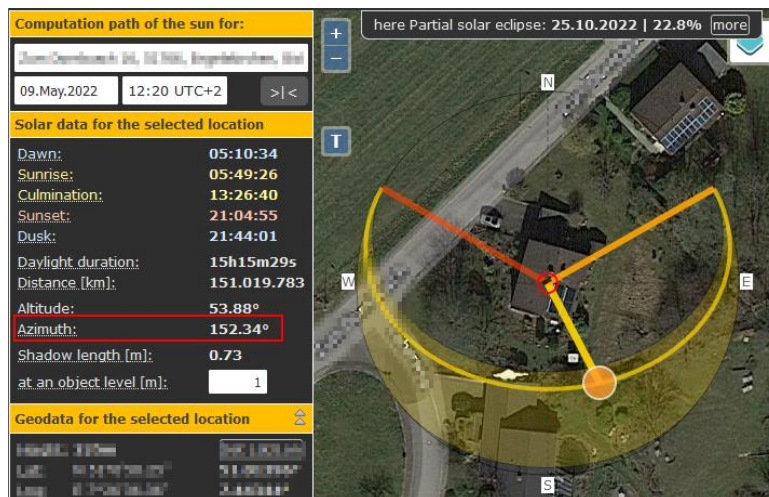


Figure: [www.suncalc.org](http://www.suncalc.org)

Limiting the elevation **(3)** is useful if, for example, neighbouring buildings shade your own building. In this case, it is possible to raise the lower angle so that the own shading only starts when it is necessary. In addition to the possibility of delaying the shading channel by channel, the shading can be enabled by an (indoor) temperature or heating setpoint (1 byte).

1.1.1 JAL-0410.02 Shutter Actuator 4-fold, 4SU, 230VAC > Channel A: Automatic Shading	
General setting	Release via (temperature/control value) <input type="text" value="not active"/>
Shading basic setting	Object Clouding <input type="text" value="enable at value 1"/>
Channel selection	Enable "Shading" with position 0%, after blocking with Up/Down <input type="radio"/> not active <input checked="" type="radio"/> active <b>4</b>
Channel A: Blinds	Status Automatic Shading <input type="text" value="in Shading state (value 1)"/>
Channel A: Alarm and block functions	Action at brightness threshold <b>5</b> <input type="text" value="move to position with slat tracking"/>
<b>Channel A: Automatic Shading</b>	Shading from brightness threshold <input checked="" type="radio"/> brightness threshold 1 <input type="radio"/> brightness threshold 2
Channel B: Blinds	Position of blinds <b>6</b> <input type="text" value="100%"/>
Channel B: Alarm and block function	Slat position <input type="text" value="50%"/>
Channel B: Advanced block function	Start slat tracking when elevation is less than (0 = not active) <input type="text" value="45"/>
Channel B: Air function	Minimum change of slat tracking <b>7</b> <input type="text" value="10%"/>
Channel B: Automatic Shading	Offset slat tracking <input type="text" value="0"/> %
Channel C: Shutter	Slat is horizontal at <b>8</b> <input type="radio"/> 0% <input checked="" type="radio"/> 50%
	Behavior after Shading <b>9</b> <input type="text" value="slats horizontal"/>

### Release, Lock, Status (4):

#### Group object "shading"

The "Shading" group object can be used as a release or lock object. Depending on the operating concept, we can deliberately lock or release the shading of individual channels with the value "1". In our example, we release the shading with the value "1".

Note: As overheating protection after a bus voltage reset, the automatic shading is also enabled in the "Enable at value 1" setting until it is disabled for the first time.

#### Enable "Shading" with position 0%, after locking with Up/Down → „active“

A current shading is stopped by an [Up/Down] command. This parameter releases the shading again when the upper end position is reached. For example, after a central [Up] command.

#### Status Automatic Shading

The status of the shading can be visualised as a 1-bit object in different ways:

[In shading state (value 1)]

The status object is "1" while the channel is shaded.

[In standby state (value 1)]

The status object is "1" as soon as the date and time have been received and the channel is not locked.

As soon as [Brightness threshold 1] is exceeded, a defined position of the blind and slat is to be approached (5). In our case 100% height and 50% slat (6).

**Note:** If slat tracking is activated and the position of the sun is low, the shading also starts lower. The slat tracking parameters (7) are significantly affected by the slat shape and depth used.

#### Slat is horizontal at (8):

Explanation: If the blind opens with horizontal slats, it is usually "horizontal at 0 %". If, on the other hand, the blind is raised with the slats tilted upwards, it is "horizontal at 50 %".

After shading, the blind should remain down, only the slats turn horizontally (9).

## 5 Settings Channel B (South), Blind:

This channel is set according to the example of channel A. Channel B shades the patio door, which is equipped with two door contacts (e.g., reed switch). The door contacts are connected to an MDT binary input and the states are processed further in the blind actuator.

### 5.1 Air function (Patio door):

#### 5.1.1 Preparation:

The air function is first activated in the channel settings.

1.1.1 JAL-0410.02 Shutter Actuator 4-fold, 4SU, 230VAC > Channel B: Blinds	
General setting	Status informations:
Shading basic setting	Status current position <input checked="" type="radio"/> not active <input type="radio"/> active
Channel selection	Object for movement status <input type="text" value="not active"/>
Channel A: Blinds	Status current direction / position up/down <input checked="" type="radio"/> not active <input type="radio"/> active
Channel A: Alarm and block functions	Status for current lock/alarms <input checked="" type="radio"/> not active <input type="radio"/> active
Channel A: Automatic Shading	Diagnosis in plaintext <input type="text" value="send at request"/>
<b>Channel B: Blinds</b>	Scene <input checked="" type="radio"/> not active <input type="radio"/> active
Channel B: Alarm and block function	Automatic functions <input checked="" type="radio"/> not active <input type="radio"/> active
Channel B: Advanced block function	<b>Air function over window contacts</b> <input type="radio"/> not active <input checked="" type="radio"/> active
	Automatic Shading <input type="radio"/> not active <input checked="" type="radio"/> active

For the next step, activate the "Advanced function" in the "Alarm and block functions".

1.1.1 JAL-0410.02 Shutter Actuator 4-fold, 4SU, 230VAC > Channel B: Alarm and block function	
General setting	Alarm order <input type="text" value="Wind alarm, Rain alarm, Frost alarm, Block function"/>
Shading basic setting	Normal blocking function <input checked="" type="radio"/> not active <input type="radio"/> active
Channel selection	<b>Advanced function</b> <input type="radio"/> not active <input checked="" type="radio"/> active
Channel A: Blinds	Wind alarm <input checked="" type="radio"/> not active <input type="radio"/> active
Channel A: Alarm and block functions	Rain alarm <input checked="" type="radio"/> not active <input type="radio"/> active
Channel A: Automatic Shading	Frost alarm <input checked="" type="radio"/> not active <input type="radio"/> active
Channel B: Blinds	Height position on alarm/block <input type="text" value="0%"/>
<b>Channel B: Alarm and block funct...</b>	Slat position on alarm/block <input type="text" value="0%"/>
Channel B: Advanced block function	



For complete lock-out protection when the patio door is open, all central commands must be disabled. To do this, we set the following parameter in the "Advanced block functions".

1.1.1 JAL-0410.02 Shutter Actuator 4-fold, 4SU, 230VAC > Channel B: Advanced block function	
General setting	Object "Block absolute position" <input checked="" type="radio"/> not active <input type="radio"/> active
Shading basic setting	"Block absolute position" with Up/Down <input checked="" type="radio"/> not active <input type="radio"/> active
Channel selection	(Block absolute position" locks the Automatic Clouding too)
Channel A: Blinds	Object "Block functions" <input checked="" type="radio"/> not active <input type="radio"/> active
Channel A: Alarm and block functions	Object "Block central objects" block "Absolute position" and "Up/Down" ▼
Channel A: Automatic Shading	Object sends state (from HW R5.0) <input checked="" type="radio"/> not active <input type="radio"/> active
Channel B: Blinds	"Block central objects" with "Down" <input checked="" type="radio"/> not active <input type="radio"/> active
Channel B: Alarm and block function	Cancel "Block central object" when position is 0% <input checked="" type="radio"/> not active <input type="radio"/> active
<b>Channel B: Advanced block function</b>	

### 5.1.2 Settings:

All required parameters can now be set.

1.1.1 JAL-0410.02 Shutter Actuator 4-fold, 4SU, 230VAC > Channel B: Air function	
General setting	Window contacts <input type="radio"/> 1 contact for "open" window <input checked="" type="radio"/> 2 contacts for "open" / "tilted" window
Shading basic setting	Value for "open" <b>1</b> contact 1 = "1" / contact 2 = "1" ▼
Channel selection	Value for "tilted" contact 1 = "0" / contact 2 = "1" ▼
Channel A: Blinds	Behavior when window is "opened" <b>2</b> execute air function, block abs. position/clouding and central objects * ▼
Channel A: Alarm and block functions	* from HW R5.0
Channel A: Automatic Shading	Function "Block central objects" must be activated in the channel and object "Lock central objects" must be activated in Extended lock function!
Channel B: Blinds	Action when window is "open" move to position if lower ▼
Channel B: Alarm and block function	Height position for "open" <b>3</b> 0% ▼
Channel B: Advanced block function	Slat position for "open" 0% ▼
<b>Channel B: Air function</b>	Action when window is "tilted" move to position if lower ▼
Channel B: Automatic Shading	Height position for "tilted" <b>4</b> 100% ▼
Channel C: Shutter	Slat position for "tilted" 70% ▼
	Action when window is closed: make up central telegrams, otherwise... <b>5</b> move to former position ▼

The patio door has two reed contacts to distinguish between open and tilted. We select 2 contacts and set the values for "open" and "tilted" **(1)**. When the patio door is open, we want to realise a complete lock-out protection. We select the behaviour: **"Execute air function, lock abs. position/shading and central objects"**. **(2)** This ensures that the open door is not automatically closed by the blind. Now the height and slat positions for the opened **(3)** and tilted **(4)** patio door can be entered.

**Result:** If the patio door is opened, the blind moves up and cannot automatically move down again until the door is closed. **The only exception is the manual operation via the [Up/Down] object.**

If the blind of the patio door is closed, the slats are automatically opened for ventilation when the door is tilted.

When the door is closed again, central telegrams received in the meantime are caught up. For example: Central down in the evening. **(5)**

## 6 Settings Channel C (West), Roller Shutter Scenes:

A roller shutter with west orientation is connected to channel C. Depending on the brightness, the roller shutter is to move to two different height positions by scenes and move up after shading. By using overwriteable scenes, the positions can also be changed and saved afterwards without ETS - e.g., via a visualisation or a push-button.

1.1.1 JAL-0410.02 Shutter Actuator 4-fold, 4SU, 230VAC > Channel C: Automatic Shading	
General setting	Can only be used if "Automatic Shading" is activated in the "General setting" menu!
Shading basic setting	Shading <input type="radio"/> disabled (settings are retained) <input checked="" type="radio"/> enabled
Channel selection	Compass direction <input type="text" value="west"/>
Channel A: Blinds	Clouding active if azimuth
Channel A: Alarm and block functions	from <input type="text" value="210° (default)"/>
Channel A: Automatic Shading	to <input type="text" value="330° (default)"/>
Channel B: Blinds	Shading active if elevation
Channel B: Alarm and block function	from <input type="text" value="35"/> <b>1</b>
Channel B: Advanced block function	to <input type="text" value="90"/>
Channel B: Air function	Delay until Shading On <input type="text" value="2"/> min
Channel B: Automatic Shading	Delay until Shading Off <input type="text" value="20"/> min
Channel C: Shutter	Release via (temperature/control value) <input type="text" value="not active"/>
Channel C: Alarm and block functions	Object Clouding <input type="text" value="enable at value 1"/>
Channel C: Scenes	Enable "Shading" with position 0%, after blocking with Up/Down <input type="radio"/> not active <input checked="" type="radio"/> active
<b>Channel C: Automatic Shading</b>	Status Automatic Shading <input type="text" value="in Shading state (value 1)"/>
	Action at brightness threshold 1 <input type="text" value="use position of scene (can be saved) (from HW R5.3)"/>
	Scene selection <input type="text" value="Scene A"/>
	Action at brightness threshold 2 <input type="text" value="use position of scene (can be saved) (from HW R5.3)"/> <b>2</b>
	Scene selection <input type="text" value="Scene B"/>
	Behavior after Shading <input type="text" value="move up"/>

Because the sun disappears behind a mountain in the west, the shading can already be disabled from an elevation angle of 35°, for example **(1)**. At "Action at brightness threshold 1/2" we now select "Use position of scene". Each threshold is assigned to an internal scene number (for example, scene A/B) **(2)**. The height positions are now set in the scene menu of the channel C, see next chapter. After the end of shading, the roller shutter moves UP.

## 6.1 Scene settings:

1.1.1 JAL-0410.02 Shutter Actuator 4-fold, 4SU, 230VAC > Channel C: Scenes

General setting	Save scenes <span style="margin-left: 20px;">1</span> <input type="radio"/> not active <input checked="" type="radio"/> active
Shading basic setting	Overwrite/retain learned scenes can be parametrise in "General setting".
Channel selection	Scene Number A <span style="margin-left: 100px;">1</span> ▼
Channel A: Blinds	Scene A - Height position <span style="margin-left: 100px;">30%</span> ▼
Channel A: Alarm and block functions	Scene A - block/enable functions <span style="margin-left: 100px;">not active</span> ▼
Channel A: Automatic Shading	Scene Number B <span style="margin-left: 100px;">2</span> ▼
Channel B: Blinds	Scene B - Height position <span style="margin-left: 100px;">60%</span> ▼
Channel B: Alarm and block function	Scene B - block/enable functions <span style="margin-left: 100px;">not active</span> ▼
Channel B: Advanced block function	Scene Number C <span style="margin-left: 100px;">not active</span> ▼
Channel B: Air function	Scene Number D <span style="margin-left: 100px;">not active</span> ▼
Channel B: Automatic Shading	Scene Number E <span style="margin-left: 100px;">not active</span> ▼
Channel C: Shutter	Scene Number F <span style="margin-left: 100px;">not active</span> ▼
Channel C: Alarm and block functions	Scene Number G <span style="margin-left: 100px;">not active</span> ▼
Channel C: Scenes	Scene Number H <span style="margin-left: 100px;">not active</span> ▼

The use of scenes in automatic shading is useful if the height of the shading positions needs to be changed afterwards and without the ETS. For this purpose, it is important that the saving of scenes is activated (1). The internal scene numbers A and B assigned in the automatic shading are now assigned KNX scene numbers and the desired roller shutter height is set. We use the KNX scene 1 and 2, with the heights 30 % and 60 % (2).

**Note:** The KNX scene numbers used here are individual and must be adapted to your own project.

## 6.2 Using the KNX Scenes:

If automatic shading is active, the roller shutter heights set for scenes A and B are now activated. Additionally assigned scene functions, such as locking or release, are only executed with an external KNX scene recall via the group address. For example, calling up KNX scene number 1 could additionally lock the shading, while scene number 2 releases it again. It is also possible to overwrite the heights via the KNX scenes, e.g. by a long button press. This allows you to change the shading positions 1 and 2 without using the ETS. For further information on the use of KNX scenes, see Tips & Tricks at [www.mdt.de](http://www.mdt.de).

## 7 Linking the group addresses:

Nur	Name	Object Function	Description	Group	Length	C	R	W	T	U	Data Type
0	Central function	Shutter up/down			1 bit	C	-	W	-	-	up/down
1	Central function	Slats adjustment / Stop			1 bit	C	-	W	-	-	step
2	Central function	Stop			1 bit	C	-	W	-	-	trigger
3	Central function	Absolute position			1 byte	C	-	W	-	-	percentage (0..100%)
4	Central function	Absolute position of slats			1 byte	C	-	W	-	-	percentage (0..100%)
7	Time	Receive current values	Time	1/1/0	3 bytes	C	-	W	T	U	time of day
8	Date	Receive current value	Date	1/1/1	3 bytes	C	-	W	T	U	date
9	Central function	Brightness 1	Brightness east	1/1/2	2 bytes	C	-	W	T	U	lux (Lux)
10	Central function	Brightness 2	Brightness south	1/1/3	2 bytes	C	-	W	T	U	lux (Lux)
11	Central function	Brightness 3	Brightness west	1/1/4	2 bytes	C	-	W	T	U	lux (Lux)
12	Central function	Outdoor temperature	Outdoor temperature	1/1/5	2 bytes	C	-	W	T	U	temperature (°C)
13	Central function	Block Shading	Lock shading	1/1/6	1 bit	C	R	W	T	-	enable
14	Central function	Shading diagnosis	Shading diagnosis	1/1/7	14 bytes	C	R	-	T	-	Character String (ASCII)
23	Channel A: Blinds east	Blinds up/down			1 bit	C	-	W	-	-	up/down
24	Channel A: Blinds east	Slats adjustment / Stop			1 bit	C	-	W	-	-	step
49	Channel A: Blinds east	Enable Shading	Enable shading east	1/1/8	1 bit	C	-	W	-	-	switch
50	Channel A: Blinds east	Status Shading state	Status shading east	1/1/9	1 bit	C	R	-	T	-	state
51	Channel A: Blinds east	Diagnosis text			14 bytes	C	R	-	T	-	Character String (ASCII)
52	Channel B: Blinds south	Blinds up/down			1 bit	C	-	W	-	-	up/down
53	Channel B: Blinds south	Slats adjustment / Stop			1 bit	C	-	W	-	-	step
68	Channel B: Blinds south	Block central object			1 bit	C	-	W	-	-	enable
75	Channel B: Blinds south	Window contact 1	Window contact 1	1/1/10	1 bit	C	-	W	T	U	boolean
76	Channel B: Blinds south	Window contact 2	Window contact 2	1/1/11	1 bit	C	-	W	T	U	boolean
78	Channel B: Blinds south	Enable Shading	Enable shading south	1/1/12	1 bit	C	-	W	-	-	switch
79	Channel B: Blinds south	Status Shading state	Status shading south	1/1/13	1 bit	C	R	-	T	-	state
80	Channel B: Blinds south	Diagnosis text			14 bytes	C	R	-	T	-	Character String (ASCII)
81	Channel C: Shutter west	Shutter up/down			1 bit	C	-	W	-	-	up/down
83	Channel C: Shutter west	Stop			1 bit	C	-	W	-	-	trigger
84	Channel C: Shutter west	Scene	Scene	1/1/17	1 byte	C	-	W	-	-	scene control
107	Channel C: Shutter west	Enable Shading	Enable shading west	1/1/14	1 bit	C	-	W	-	-	switch
108	Channel C: Shutter west	Status Shading state	Status shading west	1/1/15	1 bit	C	R	-	T	-	state
109	Channel C: Shutter west	Diagnosis text			14 bytes	C	R	-	T	-	Character String (ASCII)

All group addresses required for the functions in this solution example are now linked. Group addresses for manual operation are not included.

The automatic shading is ready for use as soon as the actuator has received the time and date. The "Shading diagnosis" object [1/1/7] provides - as described in [chapter 3](#) - all important information for troubleshooting.

## 8 List of all MDT devices with time function:

- |                                      |               |
|--------------------------------------|---------------|
| - KNX Time Switch                    | SCN-RTC20.02  |
| - IP Interface                       | SCN-IP000.03  |
| - IP Router                          | SCN-IP100.03  |
| - Glass Central Operation Unit Smart | BE-GBZx.01    |
| - Central Operation Unit Smart 86    | BE-BZS86.01   |
| - Shutter Push-button Smart 55       | BE-JTA5504.01 |
| - VisuControl Easy object server     | VC-EASY.02    |

[Back to top.](#)