Easy 1 channel shutter actuator 8A

GW 10767
GW 12767
GW 14767

Technical Manual

Summary

1 Introduction

This manual describes the functions of the devices named GW1x767 “**Easy 1 channel shutter actuator 8A**” and how to use the ETS configuration software to change the settings and configurations.

2 Application

The GW 1x767 Easy motor command actuator is used to control motors on shutters and blinds using an 8 A relay. The device has 1 channel with an output that has an exchange contact to which two terminals are connected, one to control the upstroke movement of the shutter/blind, and the other to control the downstroke movement. Apart from the relay that manages the running of the motor, there is also a relay connected in series to the first on the line which powers the relay that manages the load so that it is impossible to interrupt the power to stop the motor from running and that there is a hardware interlock that prevents the two contacts from being powered at the same time, which would damage the motor it is connected to. The device is fitted with two front buttons to locally control the motor, 2 two-coloured leds with night lighting function (amber LED) and a movement in progress status signal (green LED).
The actuator can function in shutter or blind mode, and is capable of handling actuation following priority, scene and alarm commands. This device sends the bus information on the movement in progress.
On the back of the device there is a button and red physical address programming LED; it is important to remember that the device must be configured when the shutter/blind is completely open in the upper end position.

ATTENTION: after every ETS download you have to set the stroke time of the shutter/blind. Please refer to the INSTALLATION AND USER MANUAL supplied with the product for instructions on how to configure the stroke time.

2.1 Limits to the associations

Maximum number of group addresses: 140
Maximum number of logical associations: 140

This means that it could be possible to define maximum 140 group addresses and realize maximum 140 associations between group addresses and communication objects.

2.2 Priority diagram

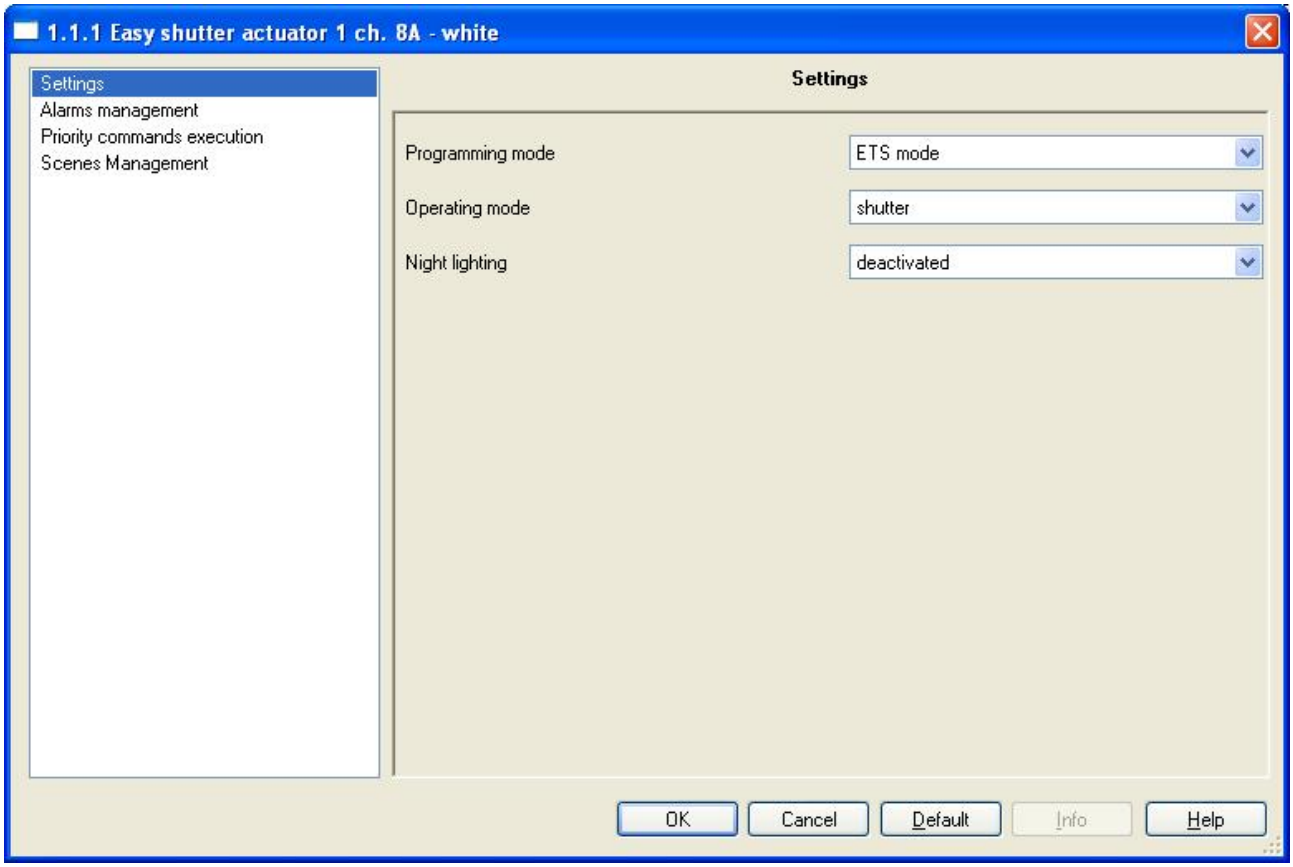
The activation of the relay is influenced by the commands received through the communication objects and when the power to the bus drops below a certain level, or when the device is started up or rebooted. The table below summarises the priorities described above.

Priority	Object
Maximum	Relay status on loss of power to the bus
	Priority command object
	Alarm Objects
	Relay status on reinstatement of power to the bus
Minimum	Movement/Scene/Shutter stop objects

If the power to the bus decreases below 18 V dc for over 1.5 ms the movement of the shutter or blind is interrupted When the power is reinstated on the bus, the shutter or blind does not move until it receives a new movement command.

3 *"Settings"* menu

Here it is possible to configure the programming mode between ETS mode (S-Mode) and Easy mode by the Easy controller software (Kit GW90837, Kit GW90838, GW90840) and all the parameters needed to configure the device settings according to the type of application required (see Diag. 3.1).



Diag. 3.1

3.1 Parameters

➢ *3.1.1 Programming mode*

This parameter determines the programming mode of the device:

- ***ETS mode***

Select this value if you want to configure the device with ETS (S-Mode); all the configuration parameters are now visible.

- ***Easy mode***

Select this value if you want to configure the device with the Easy controller software.
Remember to download the application program with this value selected before using the device by the Easy controller software if you have already used the device in an ETS project.

➢ *3.1.2 Operating mode*

This selects the actual operation mode for the device, the settings refer to:

- ***shutter***

This enables the device which controls the shutter motor. In this specific case it will not therefore be possible to control the lath regulation steps as shutters do not have laths.

- ***venetian blind***

This enables the device which controls the blind motor. In this specific case it is possible to control the lath regulation steps as blinds, unlike shutters, do have them.

➢ *3.1.3 Night lighting*

Here you can enable/deactivate the localisation function of the 2 front yellow amber coloured LEDs; the settings are:

- ***deactivated***

The front yellow amber coloured LEDs will never be enabled, therefore no movement will occur and the front indicator lights will not be backlit.

- ***active***

The front yellow amber coloured LEDs are enabled when no movement is in progress; in this case the front indicator lights are backlit by the yellow amber LEDs indicating that there is no movement in progress, in the case of lack of light in the environment, it also acts as a device localisation light.

3.2 Communication objects

The ***Settings*** menu makes the following communication objects visible (see Diag. 3.2.):

Number	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
0	Movement	Up/Down	1 bit	C	-	W	-	-	1 bit DPT_UpDown	Low
1	Shutter stop	Stop	1 bit	C	-	W	-	-		Low
1	Shutter stop/Louvres step	Stop/Step	1 bit	C	-	W	-	-		Low
6	Movement feedback	Increase/Decrease	1 bit	C	R	-	T	-	1 bit DPT_UpDown	Low

Diag. 3.2

➢ 3.2.1 Movement

Here it is possible to raise/lower the shutter/blinds using a bus command. When the device receives a telegram on this communication object, according to the command received, it will feed power to the contact associated to the requested movement.
The enabled flags are C (communication), W (written by bus).
The standard format of the object is *1.008 DPT_UpDown*, the size of the object is 1 bit and the commands that it receives are *UP/DOWN movements*.

➢ 3.2.2 Shutter stop

This object is visible if the ***Operating mode*** selected is ***shutter***.
This stops all movement of the shutter whatever it is. When the device receives a telegram on this communication object, if the shutter is moving it will instantly stop the movement, regardless of the value received.
The enabled flags are C (communication), W (written by bus).
The standard format of the object is *1.007 DPT_Step*, the size of the object is *1 bit* and the commands it receives are *stop movement* commands.

➢ 3.2.3 Shutter stop/Louvres step

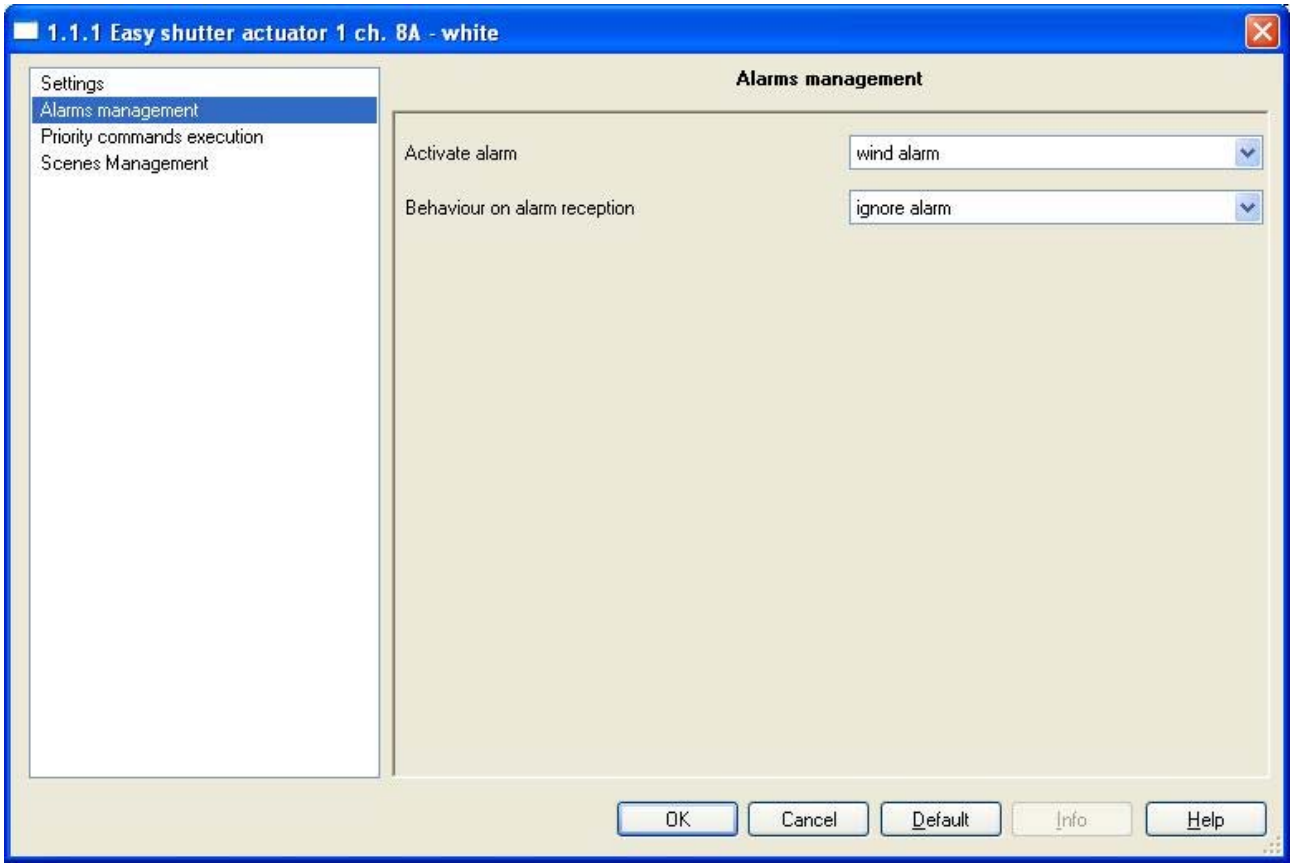
This object is visible if the ***Operating mode*** selected is ***venetian blind***.
This stops all movement of the blinds whatever it is. When the device receives a telegram on this communication object, if the venetian blind is moving it will instantly stop the movement, regardless of the value received; whilst if the venetian blind is still, it will regulate the lath open/close command according to the command received.
The enabled flags are C (communication), W (written by bus).
The standard format of the object is *1.007 DPT_Step*, the size of the object is *1 bit* and the commands it receives are *stop movement/laths regulation* commands.

➢ 3.2.4 Movement feedback

This is to allow the device to indicate the movement that the shutter/blind is performing by telegram to the bus. When the device has to move the load following the onset of certain conditions (receipt of bus command, local command etc.), it instantly sends a telegram to this communication object with the information of the movement in progress.
The enabled flags are C (communication), R (read by bus) and T (transmission).
The standard format of the object is *1.008 DPT_UpDown*, the size of the object is *1 bit* and the commands it sends are *UP/DOWN movement feedback*.

4 *"Alarm management"* menu

This menu displays the parameters which are used to set the alarm function parameters used by the device (see Diag. 4.1). This function is usually used in combination with the wind and rain sensors to protect the shutter/blind from damage caused by weather conditions. The device indicates an alarm condition with the alternate flashing of the two green front indicator lights.



Diag. 4.1

4.1 Parameters

➢ *4.1.1 Activate alarm*

This parameter enables the alarm function and makes the ***Rain alarm*** and ***Wind alarm*** communication objects and the ***Behaviour on alarm reception*** parameter visible.
If this function is enabled, the actuator completely opens or closes the shutters (blind, motorised curtain) when it receives an alarm message from a wind or rain sensor. As an extra safety measure, if the actuator does not receive a "no alarm" message for more than 30 minutes from the sensor, it interprets this as a malfunction and consequently moves the shutter to the preset safety position. The alarm status persists until the actuator receives a "no alarm" message. At the end of the alarm status, the actuator returns the shutter to its original position (or performs the last command received, if it received a command during the alarm status phase).
The settings are:

- ***none***

The alarm function is not enabled and consequently the other parameter and the communication objects are not visible.

- ***wind alarm***

The alarm function is enabled by a bus command on the ***Wind alarm*** communication object; when it is enabled, any commands received from the bus (scene, movement command) are ignored until the normal operating mode is reinstated. The ***Wind alarm*** communication object and the parameter ***Behaviour on alarm reception*** are now visible.

- ***rain alarm***

The alarm function is enabled by a bus command on the ***Rain alarm*** communication object; when it is enabled, any commands received from the bus (scene, movement command) are ignored until the normal operating mode is reinstated. The ***Rain alarm*** communication object and the parameter ***Behaviour on alarm reception*** are now visible.

- ***wind and rain alarms***

The alarm function is enabled by a bus command on one or both ***Wind alarm*** and ***Rain alarm*** communication objects; when it is enabled, any commands received from the bus (scene, movement command) are ignored until the normal operating mode is reinstated on both the communication objects. The ***Wind alarm*** and ***Rain alarm*** communication objects and the parameter ***Behaviour on alarm reception*** are now visible.

➢ *4.1.2 Behaviour on alarm reception*

This is used to set the condition the device must apply to the shutter/blind when the alarm is triggered; the settings are:

- ***shutter up***

When the alarm function is triggered the device immediately raises the shutter/blind to the upper end position; if the shutter is already in the upper end position, the device will perform no action.

- ***shutter down***

When the alarm function is triggered the device immediately lowers the shutter/blind to the lower end position; if the shutter is already in the lower end position, the device will perform no action.

- ***ignore alarm***

The function can not be enabled; the bus commands will be ignored.

4.2 Communication objects

The ***Alarm management*** menu makes the following communication objects visible (see Diag. 4.2.):

Number	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
3	Wind alarm	Alarm input	1 bit	C	-	W	-	-		Low
4	Rain alarm	Alarm input	1 bit	C	-	W	-	-		Low

Diag. 4.2

➢ 4.2.1 Wind alarm

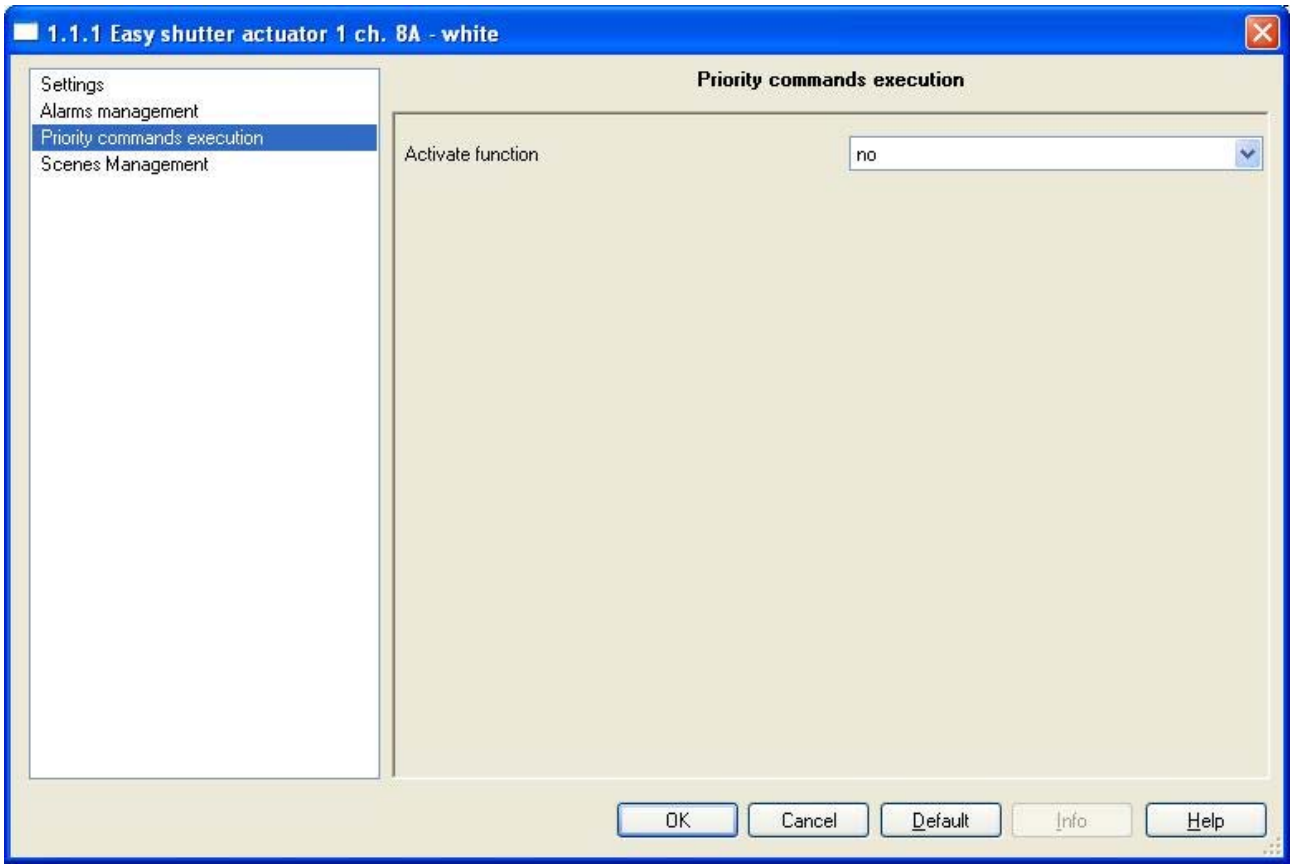
Using this communication object the device is able to receive from the bus the alarm status of wind sensor. When a bus command with a “1” logic value is received or if the actuator does not receive a “no alarm” message for more than 30 minutes through this object from the sensor, it consequently moves the shutter to the preset safety position set on the ***Behaviour on alarm reception*** parameter. The alarm status persists until the actuator receives a “no alarm” message (with “0” logic value).
The enabled flags are C (communication), W (written by bus).
The standard format of the object is *1.005 DPT_Alarm*, the size of the object is *1 bit* and the commands that it receives are *wind alarm status armed/unarmed*.

➢ 4.2.2 Rain alarm

Using this communication object the device is able to receive from the bus the alarm status of rain sensor. When a bus command with a “1” logic value is received or if the actuator does not receive a “no alarm” message for more than 30 minutes through this object from the sensor, it consequently moves the shutter to the preset safety position set on the ***Behaviour on alarm reception*** parameter. The alarm status persists until the actuator receives a “no alarm” message (with “0” logic value).
The enabled flags are C (communication), W (written by bus).
The standard format of the object is *1.005 DPT_Alarm*, the size of the object is *1 bit* and the commands that it receives are *rain alarm status armed/unarmed*.

5 *"Priority commands execution"* menu

Here is possible to enable the forced positioning mode functions used by the device (see Diag. 5.1).



Diag. 5.1

5.1 Parameters

➢ *5.1.1 Activate function*

This is to enable the function and make the ***Priority command*** communication object visible.
The forced positioning function, according to the command received from the bus, forces the device into a specific end position until a forced positioning deactivation command is received; any command received during the period in which the forced positioning is activated is ignored, as can be seen in the priority diagram (paragraph ***2.2***), it has higher priority compared to any other bus command. The settings are:

- ***no***

The function is not enabled and consequently the communication object is not visible.

- ***yes***

The forced positioning function can be activated by the ***Priority command*** communication object and it is possible to activate it using a bus command; when it is activated, any commands received from the bus (execute/store scene , move up/down, etc..) are ignored until the forced positioning deactivation command is received.
It is possible to force the shutter actuator status according to the command received from the bus, which could be: actuator forced into *"totally up"* condition or "*totally down"* condition.
Should the power to the bus be lost when the forced positioning is active, when the power is reinstated the device will memorise the fact that the forced positioning function was active before the loss of power and automatically reinstate the function, putting the load in the condition set by the previous forced positioning command. At the deactivation of the forced positioning status, the actuator returns the shutter to its original position (or performs the last command received, if it received a command during the forced positioning status phase).

5.2 Communication objects

The ***Priority commands execution*** menu makes the following communication object visible (see Diag. 5.2.):

Number	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
2	Priority command	Forced positioning up/down	2 bit	C	-	W	-	-	1 bit controlled DPT_Switch_Control	Low

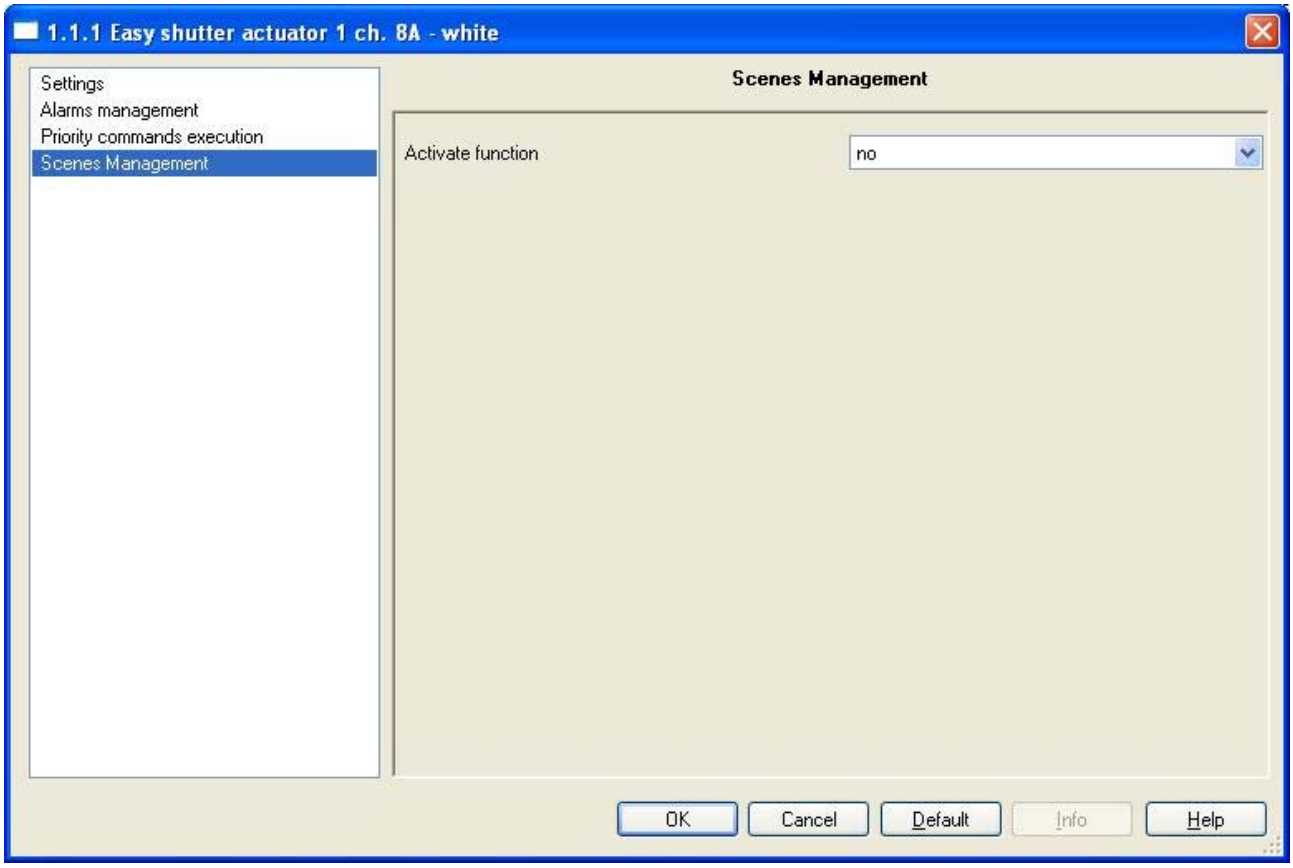
Diag. 5.2

➢ 5.2.1 Priority command

Using this communication object, the device is able to receive the activation forced positioning UP, activation forced positioning DOWN and deactivation forced positioning commands from the bus.
The enabled flags are C (communication), W (written by bus).
The standard format of the object is *2.001 DPT_Switch_Control*, the size of the object is 2 *bit* and the commands it receives is *forced positioning enabled up/down, forced positioning disabled*.

6 *"Scenes Management"* menu

Here is possible to enable the scene functions used by the device (see Diag. 6.1).



Diag. 6.1

6.1 Parameters

➢ *6.1.1 Activate function*

This is to enable the function and make the ***Scene*** communication object visible.
The scenes function sends two possible commands to the device:

- execute scene, that is a command to create a specific condition
- learn scene, that is a command to memorise the current status (at the moment the command is received) of the load position, and then reproduce it once the perform command is received

This function foresees 8 different scenes, identified by a value between 0 and 7, so the device can memorise /reproduce 8 different load positions. The settings are:

- ***no***

The scenes function is not enabled and consequently the communication object is not visible.

- ***yes***

The scenes function is enabled and is managed by the ***Scene*** communication object.

6.2 Communication objects

The ***Scene Management*** menu makes the following communication object visible (see Diag. 6.2.):

Number	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
5	Scene	Execute/Store	1 Byte	C	-	W	-	-		Low

Diag. 6.2

➢ 6.2.1 Scene

Using this communication object, the device is able to receive perform and memorise scene commands from the bus.
The enabled flags are C (communication), W (written by bus).
The standard format of the object is *18.001 DPT_SceneControl*, the size of the object is 1 *byte* and it is used to receive the *execute/learn scene* bus commands.

NOTES