

MDT solution proposal

Drive control similar to a dead man's circuit

Possible applications:

This proposed solution explicitly does not replace the safety function of a classic dead man's circuit, but only reflects its operating concept. This type of operation is used when something should only move as long as the button is pressed. For a window drive for example, or for raising and lowering the basketball hoop in the sports hall. Releasing the button stops the drive.

Used devices:

MDT Shutter Actuator/ MDT Universal Actuator

JAL-0x10.02/ JAL-0x10M.02/ JAL-0x10D.02/ JAL-x1UP.02/ AKU-xx16.03

MDT Glass Push Buttons II Smart/ MDT Push Buttons Smart 86

BE-GT20W.01/ BE-GT20S.01/ BE-GT2TW.01/ BE-GT2TS.01/ BE-TAS86.01/ BE-TAS86T

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Settings on Shutter Actuator:

In order to have the current position displayed on the *Glass Push Button II Smart*, we activate the required object on the *shutter actuator* or *universal actuator*. The illustration shows the activation of the object "Status current position", here using the example of channel A of a JAL-0210.02.

1.0.2 JAL-0210.02 Shutter Actuator 2-fold, 2SU, 230VAC, 10A > Channel A: Shutter

General setting	Description of channels/objects	<input type="text"/>
Channel selection	Additional text	<input type="text"/>
Channel A: Shutter	Time for Up/Down movement	<input checked="" type="radio"/> same <input type="radio"/> different
Channel A: Alarm and block...	Movement time	45 <input type="text"/> s
Channel B: Shutter	Extension of movement time	5% <input type="text"/>
Channel B: Alarm and block...	Short term operation (Key operation for exact position)	<input checked="" type="radio"/> not active <input type="radio"/> active
	Up/Down movement can stop (Single Object Control)	<input checked="" type="radio"/> not active <input type="radio"/> active
	Pause on reverse	500 <input type="text"/> ms
	Switch-on delay motor	200 ms <input type="text"/>
	Switch-off delay motor	200 ms <input type="text"/>
	Interchange connections for motor Up/Down	<input checked="" type="radio"/> normal <input type="radio"/> Up/Down inverted
	Object for reference drive	<input checked="" type="radio"/> not active <input type="radio"/> active
	Objects for absolute position	<input checked="" type="radio"/> not active <input type="radio"/> active
	1Bit object for "Move to position"	<input checked="" type="radio"/> not active <input type="radio"/> active
	Status informations:	
	Status current position	<input type="radio"/> not active <input checked="" type="radio"/> active
	Send status	every 5s (from HW R5.0) <input type="text"/>
	Object for movement status	not active <input type="text"/>

This activates a new object for the corresponding channel.

Num	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type
0	Central function	Shutter up/down			1 bit	C	-	W	-	-	up/down
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%)
23	Channel A:	Shutter up/down			1 bit	C	-	W	-	-	up/down
25	Channel A:	Stop			1 bit	C	-	W	-	-	trigger
32	Channel A:	Status current position			1 byte	C	R	-	T	-	percentage (0..100%)
51	Channel A:	Diagnosis text			14 bytes	C	R	-	T	-	Character String (ASCII)
52	Channel B:	Shutter up/down			1 bit	C	-	W	-	-	up/down
54	Channel B:	Stop			1 bit	C	-	W	-	-	trigger
80	Channel B:	Diagnosis text			14 bytes	C	R	-	T	-	Character String (ASCII)

Settings on *Glass Push Button II Smart*:

The required function is the two-button function "blind / shutter".
This gives us the option to display the current position as a status in "%".

1.0.1 BE-GT2Tx.01 Glas Push Button II Smart with temperature sensor > Operation / Display > Push button functions

Hardware select	Display mode	<input checked="" type="radio"/> 6 functions / 1-2 levels <input type="radio"/> 4 functions / 1-3 levels
Operation / Display	2. level / 12 functions	<input checked="" type="radio"/> not active <input type="radio"/> active
General settings	Level 1 (Push buttons 1/2 top, push buttons 3/4 central, push buttons 5/6 bottom)	
Display setting	Push button 1/2 (left, right)	not active
Information screen	Push buttons 3/4 (left, right)	two-button function
Push button functions	Push buttons 5/6 (left, right)	not active
PB3/4: Push buttons 3/4	Slap / Cleaning function	<input checked="" type="radio"/> not active <input type="radio"/> active
+ State LED	Reaction time at the push of button	fast
+ Logic	Time for long push of button	0,4 s
+ Temperature measurement		

1.0.1 BE-GT2Tx.01 Glas Push Button II Smart with temperature sensor > Operation / Display > PB3/4: Push buttons 3/4

Hardware select	Description of objects	
Operation / Display	Two-button function	blind/shutter
General settings	Assignment of push buttons	<input type="radio"/> Up/Down <input checked="" type="radio"/> Down/Up
Display setting	Operation function	long=up/down / short=stop/Slats up/down
Information screen	Function name	over text input
Push button functions	Text	
PB3/4: Push buttons 3/4	Key label for left push button	"down arrow" - Symbol
+ State LED	Key label for right push button	"up arrow" - Symbol

Logic basic settings:

The blind control objects of the two-button function are not used. The buttons are linked internally in a logic. The following illustration shows the basic settings of the required logics 1-4.

1.0.1 BE-GT2Tx.01 Glas Push Button II Smart with temperature sensor > Logic > Logic basic setting		
Hardware select	Setting Logic 1	Or
- Operation / Display	Objecttype 1	switch
	Send condition	at change output (send only 1)
General settings	Invert output	<input checked="" type="radio"/> no <input type="radio"/> yes
Display setting	Settings for logic 2	Or
Information screen	Objecttype 2	switch
Push button functions	Send condition	at change output (send only 0)
PB3/4: Push buttons 3/4	Invert output	<input checked="" type="radio"/> no <input type="radio"/> yes
+ State LED	Settings for logic 3	Or
- Logic	Objecttype 3	switch
	Send condition	at change output (send only 0)
Logic basic setting	Invert output	<input checked="" type="radio"/> no <input type="radio"/> yes
Logic 1	Settings for logic 4	Or
Logic 2	Objecttype 4	switch
Logic 3	Send condition	at change output (send only 0)
Logic 4	Invert output	<input checked="" type="radio"/> no <input type="radio"/> yes
+ Temperature measurement	Behaviour at Bus power up	<input checked="" type="radio"/> no read ext. logic objekts <input type="radio"/> read ext. logic objects

Parameter Logic 1

1.0.1 BE-GT2Tx.01 Glas Push Button II Smart with temperature sensor > Logic > Logic 1		
Hardware select	Logical object 1 A (external)	disabled
+ Operation / Display	Logical object 1 B (external)	disabled
+ State LED	Internal Input 1	Push button 3
- Logic	Push button 3	normaly active
	Internal Input 2	disabled

Parameter Logic 2

1.0.1 BE-GT2Tx.01 Glas Push Button II Smart with temperature sensor > Logic > Logic 2		
Hardware select	Logical object 2 A (external)	disabled
+ Operation / Display	Logical object 2 B (external)	disabled
+ State LED	Internal Input 1	Push button 3
	Push button 3	normaly active
- Logic	Internal Input 2	disabled

Parameter Logic 3

1.0.1 BE-GT2Tx.01 Glas Push Button II Smart with temperature sensor > Logic > Logic 3		
Hardware select	Logical object 3 A (external)	disabled
+ Operation / Display	Logical object 3 B (external)	disabled
+ State LED	Internal Input 1	Push button 4
	Push button 4	inverted active
- Logic	Internal Input 2	disabled

Parameter Logic 4

1.0.1 BE-GT2Tx.01 Glas Push Button II Smart with temperature sensor > Logic > Logic 4		
Hardware select	Logical object 4 A (external)	disabled
+ Operation / Display	Logical object 4 B (external)	disabled
+ State LED	Internal Input 1	Push button 4
	Push button 4	normaly active
- Logic	Internal Input 2	disabled

Group addresses:

The logic outputs are now linked between the *Glass Push Button II Smart* and the *Shutter Actuator* as shown in the illustration below.

Num	Name	Object Function	Description	Group Ad	Length	C	R	W	T	U	Data Type
1.0.1 BE-GT2Tx.01 Glas Push Button II Smart with temperature sensor											
10	PB3/4: Push buttons 3/4	Blind Up/Down			1 bit	C	-	-	T	-	up/down
11	PB3/4: Push buttons 3/4	Stop/Slats Open/Close			1 bit	C	-	-	T	-	step
13	PB3/4: Push buttons 3/4	State of blind for display	current position	15/0/3	1 byte	C	-	W	T	U	percentage (0..100%)
67	Logic	Output 1	up/down	15/0/2	1 bit	C	R	-	T	-	switch
70	Logic	Output 2	stop	15/0/1	1 bit	C	R	-	T	-	switch
73	Logic	Output 3	up/down	15/0/2	1 bit	C	R	-	T	-	switch
76	Logic	Output 4	stop	15/0/1	1 bit	C	R	-	T	-	switch
106	Day / Night	Day = 1 / Night = 0			1 bit	C	-	W	T	U	boolean
107	Presence	Input			1 bit	C	-	W	T	U	switch
108	Temperature measured v...	Output			2 bytes	C	R	-	T	-	temperature (°C)
112	Time	Receive current value			3 bytes	C	-	W	T	U	time of day
114	Time/Date	Receive current values			8 bytes	C	-	W	T	U	date time
119	Message text (lowest pri...	Input			14 bytes	C	-	W	T	U	Character String (ASCII)
120	State text 1	Input			14 bytes	C	-	W	T	U	Character String (ASCII)
121	State text 2	Input			14 bytes	C	-	W	T	U	Character String (ASCII)
126	Push button operation	Output			1 bit	C	R	-	T	-	state
1.0.2 JAL-0210.02 Shutter Actuator 2-fold, 2SU, 230VAC, 10A											
0	Central function	Shutter up/down			1 bit	C	-	W	-	-	up/down
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%)
23	Channel A:	Shutter up/down	up/down	15/0/2	1 bit	C	-	W	-	-	up/down
25	Channel A:	Stop	stop	15/0/1	1 bit	C	-	W	-	-	trigger
32	Channel A:	Status current position	current position	15/0/3	1 byte	C	R	-	T	-	percentage (0..100%)
51	Channel A:	Diagnosis text			14 bytes	C	R	-	T	-	Character String (ASCII)
52	Channel B:	Shutter up/down			1 bit	C	-	W	-	-	up/down
54	Channel B:	Stop			1 bit	C	-	W	-	-	trigger
80	Channel B:	Diagnosis text			14 bytes	C	R	-	T	-	Character String (ASCII)