Mercos

TIMING(UP/DOWN) RELAY MANUAL

D C P 0 2
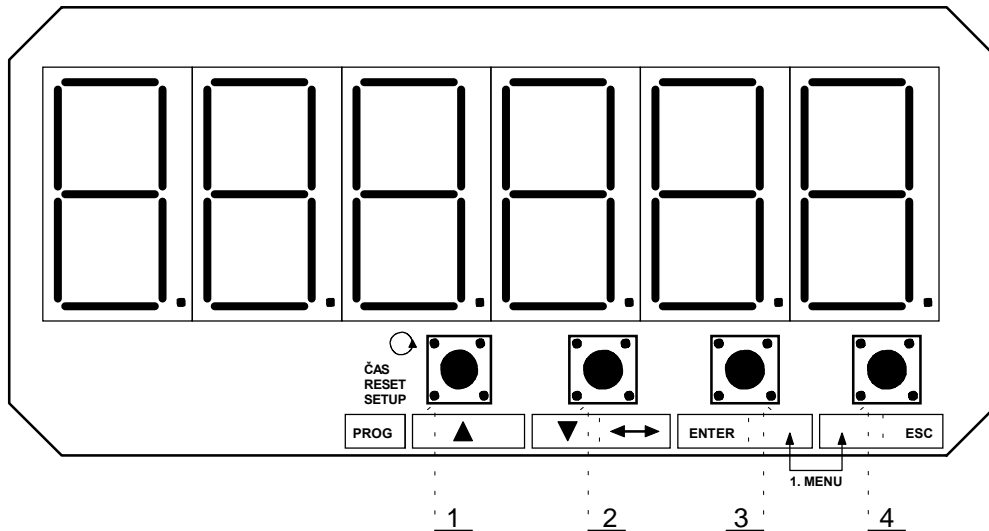
A. BASIC ADRESS&SUB-ADRESS PREVIEW and ITS FUNCTIONS   DCP 01

ADRESS	DESCRIPTION (PASSWORD: **1 4 3 2**)	**SUB-ADRESS** in menu
01	SELECTION of input signal <u>descending edge</u>: from log "1" to log "0" <u>rising edge</u>: from log "0" to log "1"	0 ..... indirect reaction on descending edge <hr>1 .... direct reaction on rising edge

02	selection of input **reaction type**
	
	- in case of "0" selection : reset could realized by coming of new log. value or by RST input
	- in case of "1" a "2" selection : reset could be realized by RST input
		0 .. permanent log. 1(0) = device timing
		    no log. 1(0) = timing stoped
		    new permanent log. 1(0) = reset
		                                  and timing
		<hr>1 .. permanent log 1(0) = device timing
		    permanent log 0 (1) = timng stopped
		<hr>2 .. **pulse** log.1(0) = device is timing
		    continously till log. 1 on RST
		<hr>3 .permanent log.1(0) device timing,
		    log.0(1)=device is reseted,
		    new permanent log.1(0) device timing

03	CHOICE TYPE OF TIMING:	0 ... timing UP <hr>1 ... timing DOWN
04	display RESET	access from menu
05	reaction type when limit reach its value	0 ... continous timing <hr>1 ... timing is stopped
07	SETUP of preset value (SET UP)	access from menu
08	SELECTION OF ACCESS TO RESET FUNCTION **NOTICE!!!** when the device is in timing down mode, RESET will not clear display (00.00.00) but will pre-set value from adress 07 (ex. 01.59.30)	0 ... access only from menu (**reset** and **setup of preset** value is avaible only in menu) <hr>1 ... direct from main display and menu (**reset** and **setup of preset** value is avaible both in menu and main display)
09	CHOICE OF INPUT SIGNAL DURATION	from 0.01 to 99.99 s
RESET	<u>A. TIMING "UP"</u> : **step 1 -** by buton no.1 in main display (**main display** is state after the device is power up, or you exit menu - timing value is displayed ex. 02.30.45) we will switch display till **"------"** appears (symbol for RESET - **second display**). **step 2** - Then by button no.3 (button no.3 has "ENTER" function) we will confirm RESET function. By these two steps the RESET function is executed. If we dont want to execute the RESET function we can return to **main display** by button no. 1 or we can wait 2 secs and device will return to **main display** automatically. <u>B. TIMING "DOWN"</u> : **step 1 and step 2-** same as timing up. **But RESET function will not reset value but it will pre-set value from adress 7** **third display** (on display is "SEt UP "): by button no. 3 we confirm SETUP function, then we can change **preset value** like on adress 7 (third display is like a shortcut to the adress 7 in menu :-)), after we change the value, we will save it by button no. 3 (on display appears message "hotovo", we must press button no. 4 to confirm this message). If we accessed this function, but we dont want to change anything, we will press button no. 4 and device will exit SETUP function.	

ADRESS	DESCRIPTION (PASSWORD: **1 4 3 2**)	**SUB-ADRESS** in menu
15	First limit (L1) numerical setting / notice: in full range of scale /	
17	First limit HYSTERESIS timing / notice: from 0,0 s to 299,9 s step: 0,1 s /	
18	SELECT function of output relay: / direct: relay closes, indirect: relay opens /	0 ..... indirect
		1 .... direct
20	Second limit (L2) numerical setting / notice: in full range of scale /	
22	Second limit HYSTERESIS timing / notice: from 0,0 s to 299,9 s step: 0,1 s /	
23	SELECT function of output relay: / direct: relay closes, indirect: relay opens /	0 .... indirect
		1 .... direct
00	SELECTION WHERE WE CAN CHANGE LIMITS: / from main display and menu or only form menu /	0 .... only from menu
		1 .... from menu and from display

ADRESS	DESCRIPTION OF EACH ADRESS
01	User can choose if device will react on rising or falling edge **direct(rising) or indirect (falling)** In case of **direct input type** we setup on adress **A_01** value **1**. Then the device react on rising edge (form logical zero to logical one). The duration of logical pulse must be longer then the value on adress **A_09**, otherwise the device will not react.
02	**selection of input <u>reaction type</u>** - on this adress user can choose four types of reaction on input signal selection "0" - device start timing by comming of logical level and timing till it is still present . When the logical level is interrupted timing is stopped. After new logical level device will reset and start timing again. At the same time we can reset device by RESET function. selection "1" - device start timing by comming of logical level and timing till it is still present. When the logical level is interrupted timing is stopped. After new logical level device will continue timing We can reset device onlz by RESET function. selection "2" - device starts timing by comming of logical **pulse** and the timing continous without care of log. input , only the RST input stops and clear timing selection "3" - device start timing by comming of logical level and timing till it is still present . When the logical level is interrupted timing is reseted. After new logical level device will start timing again. At the same time we can reset device by RESET function.
04	On this adress we can execute RESET function.
05	On this adress we can choose reaction type when limit reach its value (both for L1, L2) - selection "0": when timing value reach limit (L1, L2) , timing still continous. - selection "1": when timing value reach limit (L1, L2) , timing will stop (**but timing will stop after timing value will reach the higher limit !)**
07	On this adress we can change the **preset value.**
08	SELECTION OF ACCESS TO RESET FUNCTION <u>NOTICE!!!</u> when the device is in timing down mode, RESET will not clear display (00.00.00) but will pre-set value from adress 07 (ex. 01.59.30) 0 ... access only from menu (**reset** and **setup of preset** value is avaible only in menu) 1 ... direct from main display and menu (**reset** and **setup of preset** value is avaible both in menu and main display)

ADRESS	DESCRIPTION OF EACH ADRESS
09	On this adress we choose <u>duration of logical input pulse</u> from 0.01s - 99,99 s
15	First **limit** (L1) **numerical setting** - when the measured value reach the L1,relay RE1 will open/close(depends on value on A_18) - the value of L1 could be set in full range
17	First limit **HYSTERESIS timing**: <u>**dtL1**</u> - this adress provides first limit **HYSTERESIS timing** - the value od dtL1 could be set from <u>0</u> to <u>299.9 s</u> (step: 0.1 s) - description: if the input signal reach the value of L1, relay closes/opens (see in **point 18**) after the time of dtL1 count down. (from 0s to 299,9s) - if the input signal overloads the value of L1, dtL1 count down is activated. If the input signal falls under the value of L1 during the dtL1 count down is timing, the relay Re1 will not be activated. The dtL1 count down timing is reseted.
18	**Selection of function RE1** when the measured value reach limit **L1** : - <u>direct function</u>: when relay <u>Re1</u> reach L1 <u>opens</u> /the hook contact of RE1 is activated/ - <u>indirect function</u> : when relay <u>Re1</u> reach L1 <u>closes</u> /the unhook contact of RE1 is activated/
20	Second **limit** (L2) **numerical setting**: - when the measured value reach the L2,relay RE2 will open/close(depends on value on A_18) - the value of L2 could be set in full range
22	Second limit **HYSTERESIS timing**: <u>**dtL2**</u> - this adress provides first limit **HYSTERESIS timing** - the value of dtL2 could be set from <u>0</u> to <u>299.9 s</u> (step: 0.1 s) - description: if the input signal reach the value of L2, relay closes/opens (see in **point 23**) after the time of dtL2 count down. (from 0s to 299,9s) - if the input signal overloads the value of L2, dtL2 count down is activated. If the input signal falls under the value of L2 during the dtL2 count down is timing, the relay Re2 will not be activated. The dtL2 count down timing is reseted.
23	**Selection of function RE2** when the measured value reach limit **L2** : - <u>direct function</u>: when relay <u>Re2</u> reach L2 <u>opens</u> /the hook contact of RE2 is activated/ - <u>indirect function</u> : when relay <u>Re2</u> reach L2 <u>closes</u> /the unhook contact of RE2 is activated/

BUTTON	SYMBOL	DESCRIPTION OF BUTTONS FUNCTION
1	◯↗ **TIME** **RESET** **SETUP** **LIM L1** **LIM L2**	**1. function**: in <u>main display</u> is this button used for cycling between : 　　　　**TIMING VALUE**, **RESET ("-------")** , **SETUP (preset)** , **L1** and **L2** - <u>TIMING</u> : this value is automatically shown after the device is power up or Menu is exited or after 2 seconds in main display - <u>RESET</u>: appears " - - - - - - " and by button no.3 "ENTER" , you can RESET timing value. If we dont want to RESET timing value, we can wait 2 seconds and device will switch to showing timing value. - <u>SETUP</u>: appaers "SETUP" and by button no.3 "ENTER" , you can access SETUP and change preset value .
	▲	**2. function**: in <u>program state</u> is this button used for setting the value or changing numeral value on the flashing segment in direction "**up** " : - changing adress : A_01 - A_23 direction UP - changing options in adresses - changing value on the flashing segment
2	↔	**1. function**: in <u>program state</u> is this button used for selecting the segment of number on display. - used for changing the flashing segment on the display - not used in changing options in adresses
	▼	**2. function**: in <u>program state</u> is this button used for moving in menu in direction DOWN

BUTTON	SYMBOL	DESCRIPTION OF BUTTONS FUNCTION
3 + 4	**ENTER + ESC**	**1. function -** by pressing buttons "**ENTER**" and "**ESC**" together we access the menu - on display appears " 0 0 0 0 " and device is waiting for password if no action taken, device will return back to the main display. password: **1 4 3 2** (* keep this password in secure, there is no way to change it) - to enter the password use buttons no. 1 and 2 as desribed on page 5 and after you enter password please press button no. 3 (ENTER) - if password is OK, on display appears adress menu, or if password is FALSE device will return back to the main display
3	**ENTER**	**1. function**: button **ENTER** is used to confirm and program the adresses - by button **ENTER** you can access adress in menu - now you can change the value or by pressing button no.4 (ESC) exit adress without saving your changes - if you are sure that the changed value is OK , please press ENTER button and the changes will be saved into **EEPROM**, and message "**hotovo**" will appears on display. Please press butoon no. 4(ESC) to confirm this message.
4	**ESC**	**function**: button **ESC** is used for escaping adresses, menu and "enter password" section. **!!TIP!! : ESC** button is used to confirm message "**hotovo**", which means everything was done allright. (in english like word: **done**, **complete, etc...**)
NOTICE:		