POSITAL
FRABA

DIMOD-P DISPLAY COUNTER

User Manual

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Inputs and outputs

Power supply

Please look at figure 1.

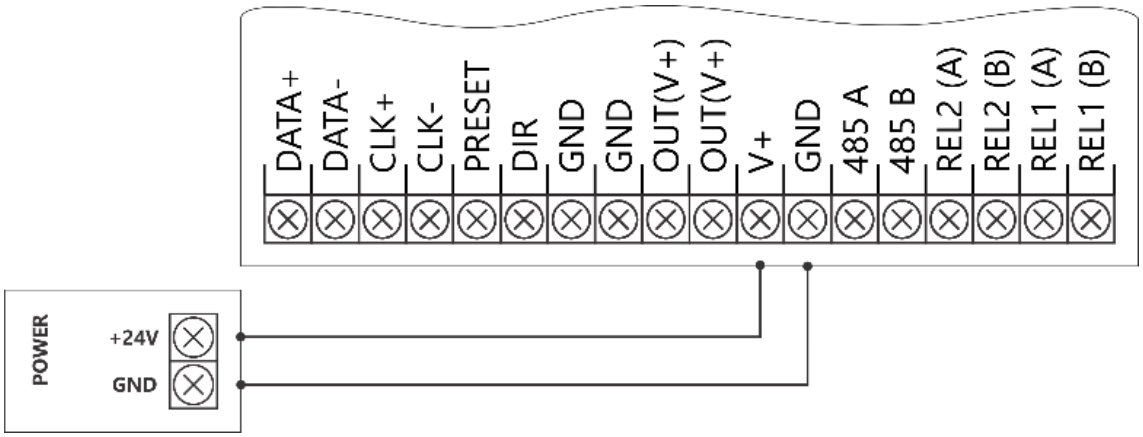

Figure 1. Power supply – scheme of connection

Before any connections you should disconnect the device from main electricity.

Interface RS-485

Please look at figure 2.

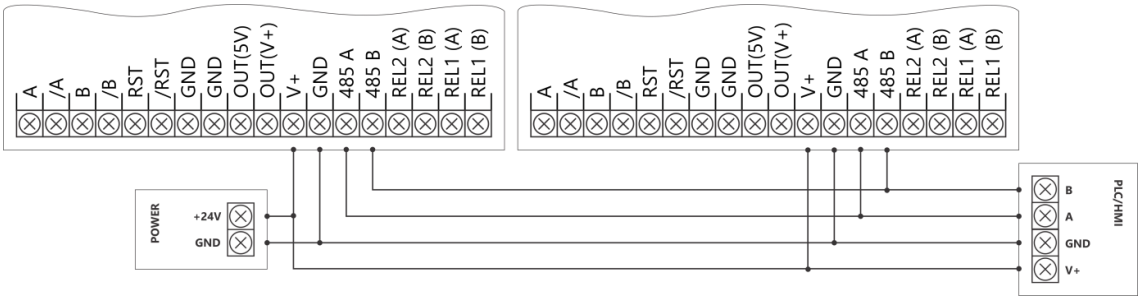

Figure 2. RS-485 – scheme of connection

Before any connections you should disconnect the device from main electricity.

Inputs of sensor with SSI interface

Please look at figure 3.

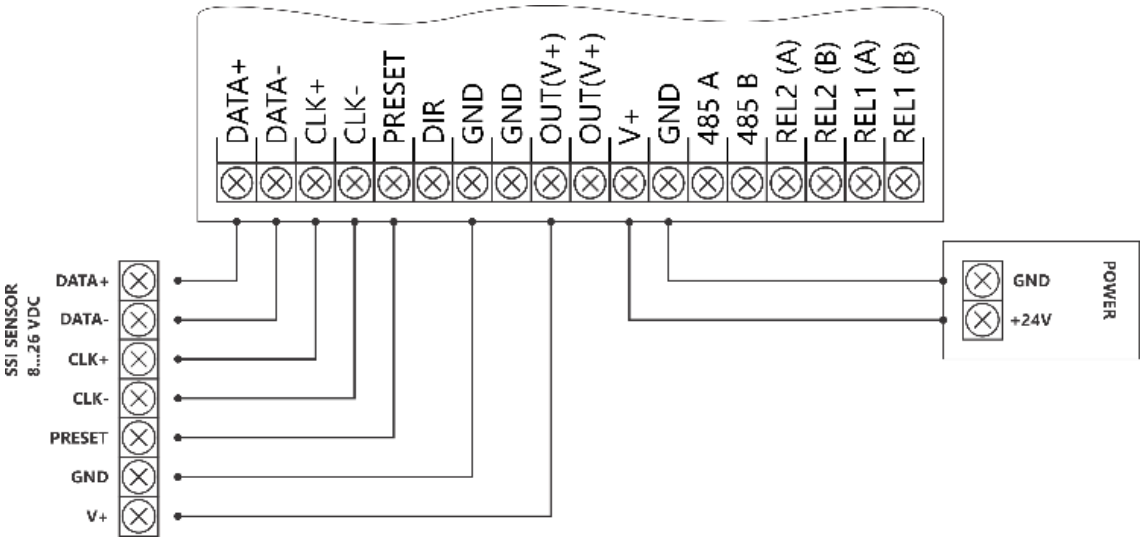

Figure 3. Sensor with SSI interface – scheme of connection

Before any connections you should disconnect the device from main electricity.

Relay Outputs

Please look at figure 4.

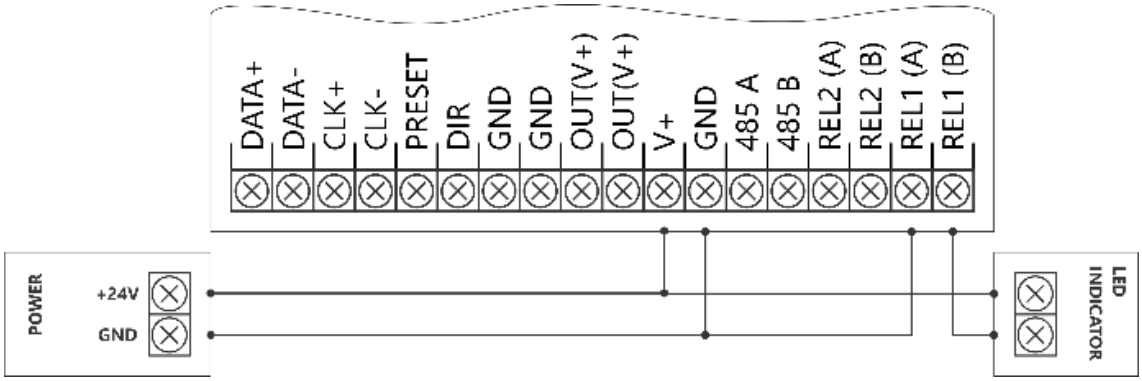

Figure 4. TTL incremental encoder – scheme of connection

Before any connections you should disconnect the device from main electricity.

LEDs

- LED green (leftmost) - indicator of relay REL1 activation
- LED green (rigthmost) - indicator of relay REL2 activation

Regulation of relay outputs

The parameters 04-0 1rG (for output 1) and 10-02rG (for output 2) define the type of regulation for display's relay outputs. These parameters are configured from Menu of display or PC software. The display offers four types (option) of regulation:

- 04-0 1rG , 10-02rG = 1-oFF – relay outputs are always turned-off
- 04-0 1rG , 10-02rG = 2-on – relay outputs are always turned-on
- 04-0 1rG , 10-02rG = 3-nod – relay outputs are controlled by RS-485 (Modbus RTU)
- 04-0 1rG , 10-02rG = 4-uAr 1 – relay outputs in depending on measured value and setting one threshold
- 04-0 1rG , 10-02rG = 5-uAr2 – relay outputs in depending on measured value and setting two thresholds

The option 04-0 1rG , 10-02rG = 4-uAr 1 gives two ways of relay outputs' work. The parameters 06-o 1dr (for output 1) and 12-02dr (for output 2) define these ways. Please look at figure 5.

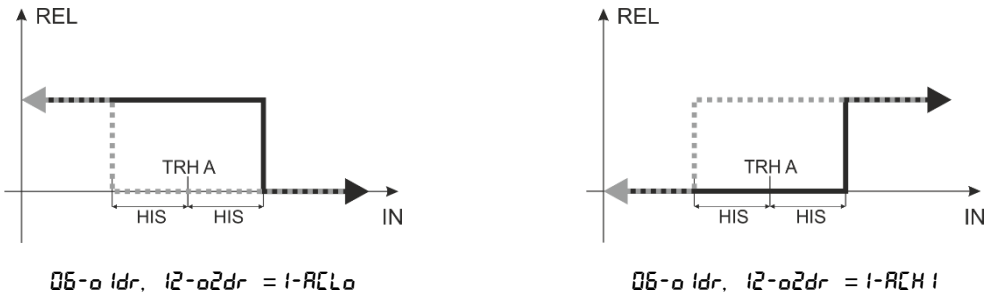

Figure 5. Regulation of relay outputs (option 4-uAr 1)

Legend: IN – measuring value, REL – status of relay output, TRH A – threshold, HIS – hysteresis.

The option 5-uRr2 of these parameters gives also two ways of relay outputs' work. The parameters 06-o1dr (for output 1) and 12-02dr (for output 2) define these ways. Please look at figure 6.

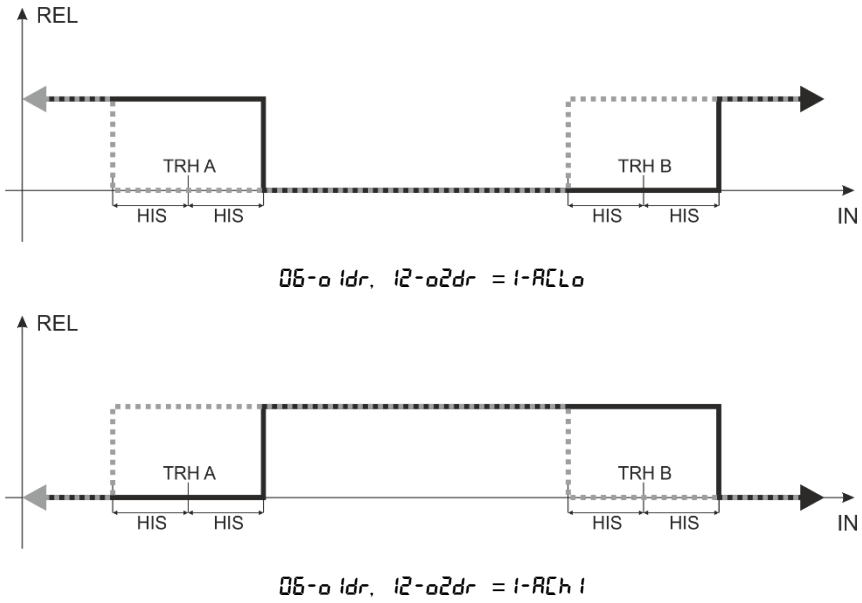

Figure 6. Regulation of relay outputs (option 5-uRr2)

Legend: IN – measuring value, REL – status of relay output, TRH A, TRH B – thresholds, HIS – hysteresis.

Menu

Button's functions

Button	Name	Function :: Main view	Function :: Menu	Function :: Changing of parameters
	**ESC/RST**	In depending on settings: Reset (press and hold button by 5 sec. = reseting of position and cycles)	Menu exit	Parameter abortion
	**NEXT 2**	Non active	Non active	Digit selection
	**NEXT 1**	Change of displayed value: No sign = position [sign = cycles µ sign = velocity	Next parameter	Change value
	**ENT**	Menu entry (press and hold buton by 5 sec.)	Parameter selection	Parameter confirmation

Table 1. Button's functions

Menu map

Menu	Parameter configuration	Description
Relay Output No 1		
01.o1tA	= 123.45	Threshold A (THR A): Range: -99999…99999 (position of decimal point is changed by parameter 23.ddot)
02.o1tb	= 123.45	Threshold B (THR B): Range: -99999…99999 (position of decimal point is changed by parameter 23.ddot)
03.o1h1	123.45	Hysteresis (HIS): Range: 0…99999 (position of decimal point is changed by parameter 23.ddot)
04.o1rG	1-oFF	Type of regulation for relay output: 1-oFF – relay output is off 2-on – relay output is on 3-nod – relay output is controlled by RS-485 (MODBUS) 4-UAr1 – relay output is on/off in depending on threshold A, hysteresis and measuring value 5-UAr2 – relay output is on/off in depending on thresholds (A and B), hysteresis and measuring value
05.o1tP	1-UPoS	Type of measuring value which is correlated with relay output: 1-UPoS – position 2-UUEL – velocity
06.o1dr	1-ACLo	Way of relay output's work: 1-ACLo – please look at figure 5 and 6 2-ACH1 – please look at figure 5 and 6
Relay Output No 2		
07.o2tA	= 123.45	Threshold A: Range: -99999…99999 (position of decimal point is changed by parameter 23.ddot)
08.o2tb	= 123.45	Threshold B: Range: -99999…99999 (position of decimal point is changed by parameter 23.ddot)
09.o2h1	123.45	Hysteresis: Range: 0…99999 (position of decimal point is changed by parameter 23.ddot)

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10.o2rG	1-oFF	Type of regulation for relay output: 1-oFF – relay output is off 2-on – relay output is on 3-nod – relay output is controlled by RS-485 (MODBUS) 4-VAr 1 – relay output is on/off in depending on threshold A, hysteresis and measuring value 5-VAr2 – relay output is on/off in depending on thresholds (A and B), hysteresis and measuring value
11.o2tP	1-UPo5	Type of measuring value which is correlated with relay output: 1-UPo5 – position 2-UUEL – velocity
12.o2dr	1-ACLo	Way of relay output's work: 1-ACLo – please look at figure 5 and 6 2-ACH 1 – please look at figure 5 and 6
SSI Interface		
13.5nod	1-b in	SSI code: 1-b in – Binary 2-GrAY – Gray
14.5CoE	= 123.45	Coefficient to calculate position value (UPo5) Range: -99999…99999 (position of decimal point is changed by parameter 22.ddot) Example: Set to measure position in [mm]: (display + encoder + measuring wheel (circumference: OKP mm)) >> 5CoE = OKP Set to measure position in [mm]: (display + linear sensor (wire drum circumference OBL mm)) >> 5CoE = OBL Set to measure position in [°]: (counter + encoder) >> 5CoE = 360
15.5oFF	= 123.45	Offset to calculate position value (UPo5) (position of decimal point is changed by parameter 23.ddot)
16.5dir	1-Cu	Count direction: 1-Cu – CW 2-CCu – CCW
17.55tb	0000 12	Sensor's resolution [bit] (singleturn): Range: 0…20 bit

18.SnEb	0000 12	Sensor's revolution [bit] (multiturn): Range: 0…20 bit
19.SSEr	0000 10	Delay between measurements [ms]: Range: 1…1000 ms
20.SSEr	1- 1000	SSI frequence – CLK line: 1- 1000 – 1 MHz 2-700 – 700 kHz 2-500 – 500 kHz 3-300 – 300 kHz 4-200 – 200 kHz
Display & RS485		
21.SCLr	1-Cno	Sensor's preset function: 1-Cno – without sensor's preset function 2-Cb – sensor's preset function, by using ESC/RST button
22.dbU2	1-boFF	Sound signal of buttons: 1-boFF – Off 2-bon – On
23.ddot	1-dot0	Position of decimal point: 1-dot0 – XXXXX 2-dot1 – XXXX.X 3-dot2 – XXX.XX 4-dot3 – XX.XXX
24.dUAL	1-UPoS	Main view (after turn-on of display): 1-UPoS – position 2-UUEL – velocity (U)
25.nAdr	000 123	MODBUS address: Range: 1…255
26.nbAU	1-96br	MODBUS baudrate: 1-96br – 9600 bps 2- 19br – 19200 bps 3-38br – 38400 bps 4-57br – 57600 bps 5- 11br – 115200 bps
27.PASS	000 123	Password: Range: 1-999 000 – non active

Table 2. Menu map

Contact

FRABA America
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The picture and drawing are for general presentation purposes only. Please refer to the "Download" section for detailed technical drawings. All dimension in [inch] mm.