



Read this document carefully before using this device. The guarantee will be expired by device damages if you don't attend to the directions in the user manual. Also we don't accept any compensations for personal injury, material damage or capital disadvantages.

ENDA EI4430 PROGRAMMABLE INDICATOR

Thank you for choosing ENDA EI4430 programmable indicator.

- ▷ 48 x 48mm sized.
- ▷ 0-20mA, 4-20mA, 0-10V, 2-10V Input selection.
- ▷ Display scale can be adjusted between -1999 and 4000.
- ▷ Decimal point can be adjusted between 0 and 0.000.
- ▷ Adjustable input noise filtering.
- ▷ RS485 Modbus RTU communication protocol feature (Please specify at order).
- ▷ CE marked according to European Norms.

Order Code : EI4430 - <input type="checkbox"/> - <input type="checkbox"/>	
1 - Supply Voltage	2 - Modbus
UV.....90-250V AC	RS.....Modbus
LV.....10-30V DC /	(Specify at order)
8-24V AC	



TECHNICAL SPECIFICATIONS

Input Type	Scale Range	Accuracy
0-20mA current	-1999...+9999 (Max. scale range 10000)	± 0,2% (of full scale) ±1 Digit
4-20mA current	-1999...+9999 (Max. scale range 10000)	± 0,2% (of full scale) ±1 Digit
0-10V voltage	-1999...+9999 (Max. scale range 10000)	± 0,2% (of full scale) ±1 Digit
2-10V voltage	-1999...+9999 (Max. scale range 10000)	± 0,2% (of full scale) ±1 Digit

RoHS
Compliant



ENVIRONMENTAL CONDITIONS

Ambient/Storage Temperature	0 ... +50°C/-25 ... 70°C
Max. Relative Humidity	80% Relative humidity for temperatures up to 31°C, decreasing linearly to 50% at 40°C.
Rated Pollution Degree	According to EN 60529 Front panel : IP65 , Rear panel : IP20
Height	Max. 2000m

⚠ KEEP AWAY device from exposed to corrosive, volatile and flammable gases or liquids and DO NOT USE the device in similar hazardous locations.

ELECTRICAL CHARACTERISTICS

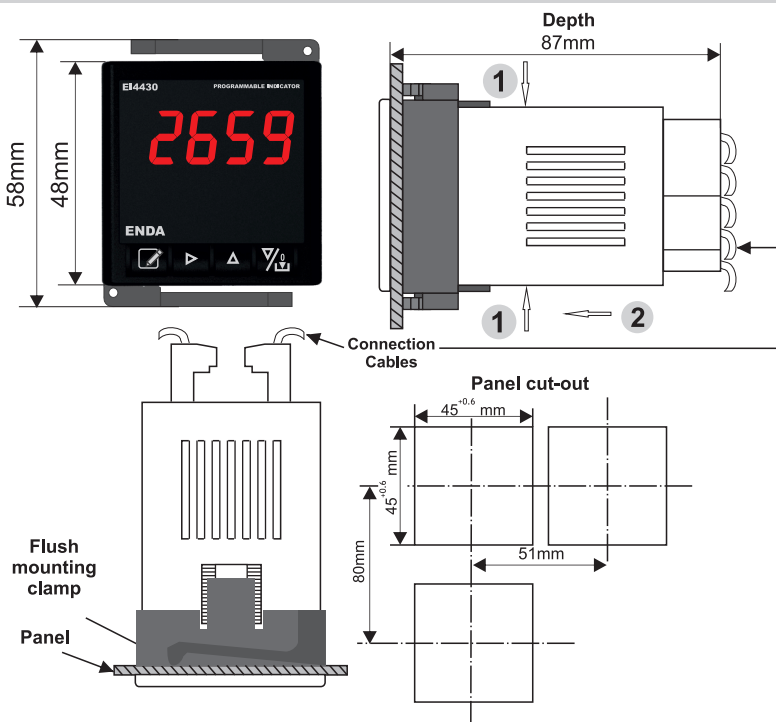
Supply	90-250V AC 50/60Hz, 10-30V DC / 8-24V AC SMPS
Power consumption	Max. 5VA
Wiring	Power terminal : 2.5mm ² screw-terminal connections. Signal terminal : 1.5mm ² screw-terminal connections.
Date retention	EEPROM (Min. 10 years).
EMC	EN 61326-1: 2013.
Safety requirements	EN 61010-1: 2010 (Pollution degree 2, overvoltage category II).

HOUSING

Housing type	Suitable for flush-panel mounting according to DIN 43 700
Dimensions	W48xH48xD87mm.
Weight	Approx. 230g (after packaging)
Enclosure material	Self extinguishing plastics.

⚠ Avoid any liquid contact when the device is switched on. DO NOT clean the device with solvent (thinner, gasoline, acid etc.) and / or abrasive cleaning agents.

DIMENSIONS



For removing mounting clamps ;

- Push the device in direction 1 as shown in the figure.
- Then pull out the device in direction 2.

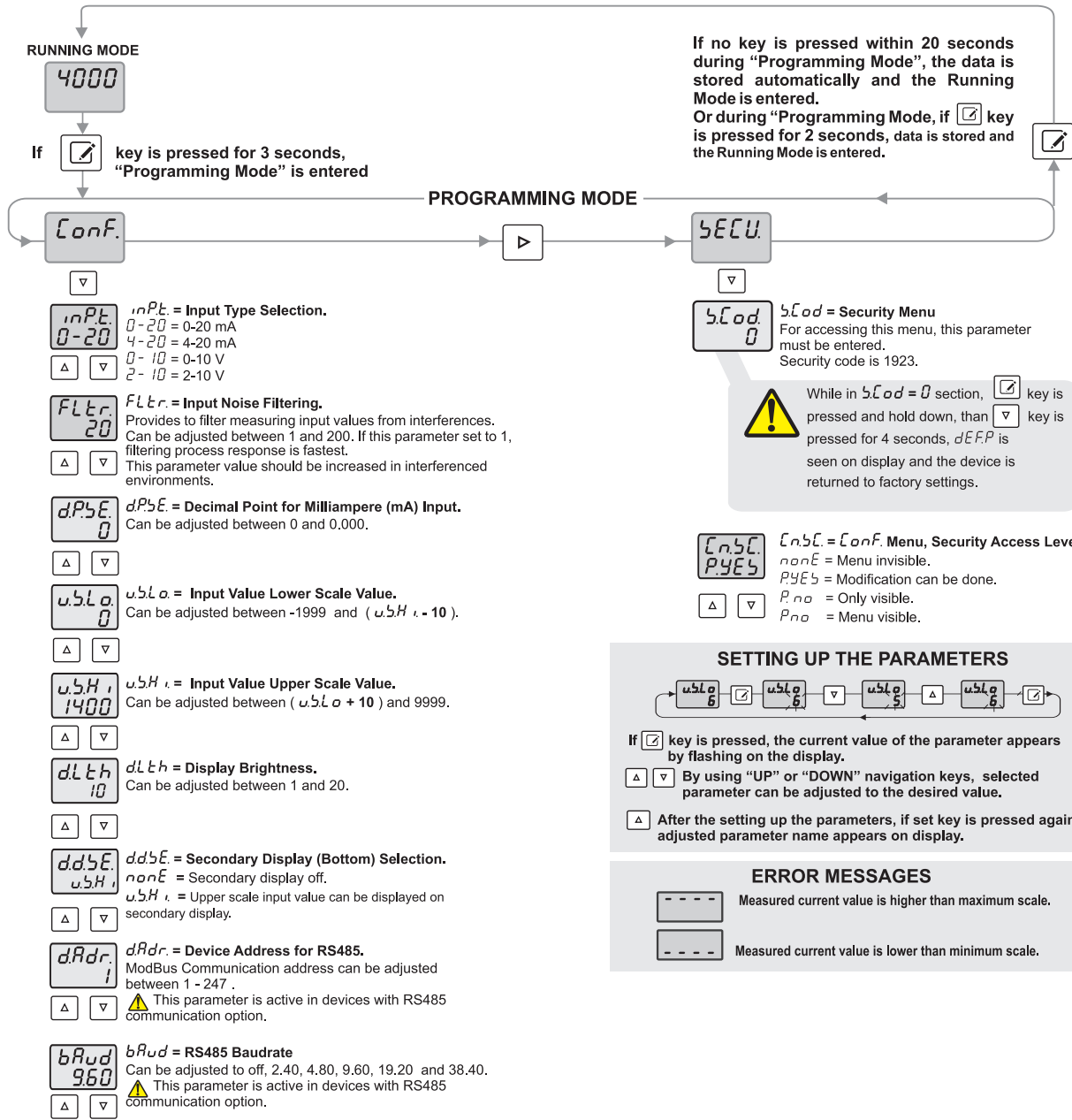
Note :

- 1) While performing panel mounting, additional space should be allocated for cables.
- 2) Panel thickness should be maximum 9mm.
- 3) If there is no 100mm free space at back side of the device, it would be difficult to remove it from the panel.

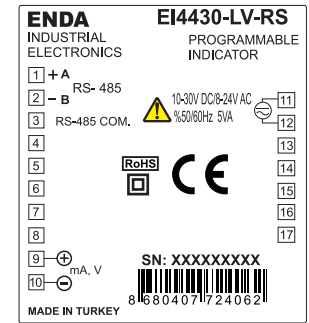
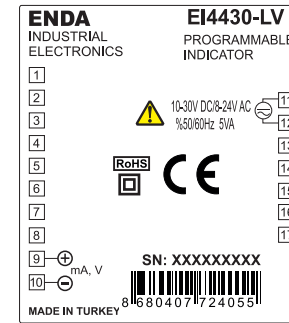
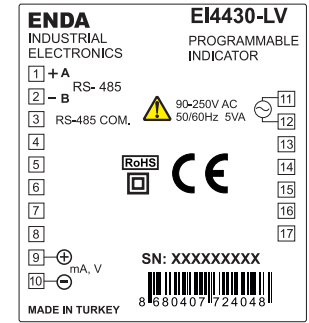
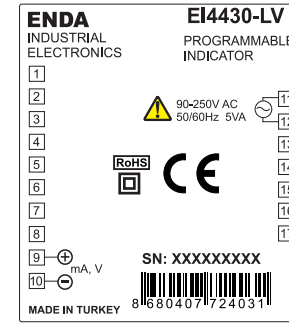


ENDA EI4430 is intended for installation within control panels. Make sure that the device is used only for intended purpose. The shielding must be grounded on the instrument side. During an installation, all of the cables that are connected to the device must be free of electrical power. The device must be protected against inadmissible humidity, vibrations, severe soiling. Make sure that the operation temperature is not exceeded. All input and output lines that are not connected to the supply network must be laid out as shielded and twisted cables. These cables should not be close to the power cables or components. The installation and electrical connections must be carried out by a qualified staff and must be according to the relevant locally applicable regulations.

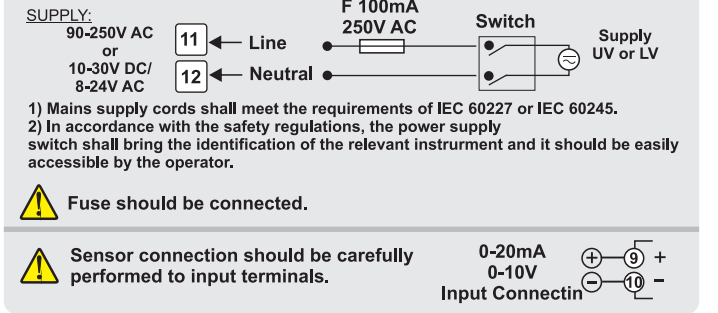
PROGRAMMING DIAGRAM



CONNECTION DIAGRAM



NOTE :



Equipment is protected throughout by DOUBLE INSULATION



Holding screw 0,4-0,5Nm.

ENDA EI4430 PROGRAMMABLE INDICATOR MODBUS PROTOCOL ADDRESS MAP

HOLDING REGISTERS

	Parameter Numbur	Holding Register addresses Desimal (Hex)	Data Type	Data Content	Read / Write Permission	Parameter name	Default Value
Control Output Parameters	H0	0000d (0000h)	Word	Input type selection. (0 = 0-20mA, 1 = 4-20mA, 2 = 0-10V ,3 = 2-10V)	R/W	<i>inPt.</i>	2
	H1	0001d (0001h)	Word	numerical filter coefficient (Adjustable from 1 to 200. If selected 1, numeric filter is disabled)	R/W	<i>FLtr.</i>	20
	H2	0002d (0002h)	Word	Decimal point selection for input mA and V (0 = 0,1=0.0, 2=0.00, 3=0.000)	R/W	<i>d.P5E.</i>	0
	H3	0003d (0003h)	Word	for 0-20mA, 4-20mA, 0-10V and 2-10V Lower scale value	R/W	<i>u.SLo.</i>	0
	H4	0004d (0004h)	Word	for 0-20mA, 4-20mA, 0-10V and 2-10V Upper scale value	R/W	<i>u.SHi.</i>	1400
	H5	0005d (0005h)	Word	Display light intensity adjustment parameter. Adjustable from 1 to 20.	R/W	<i>d.LtH</i>	10
	H6	0006d (0006h)	Word	Sub display selection. (<i>nonE</i> (0) = No parameters are visible in the lower display. <i>u.SHi.</i> (1)= Upper scale value is seen on the lower display	R/W	<i>dd5E.</i>	1
	H7	0007d (0007h)	Word	Slave device address. (Adjustable between 1 and 247)	R/W	<i>dAdr.</i>	1
	H8	0008d (0008h)	Word	Baudrate. (Can be adjusted as ; <i>OFF</i> , 1200, 2400, 4800, 9600, 19200 kbps)	R/W	<i>bAud.</i>	3
	H9	0009d (0009h)	Word	Function control parameter (23042d (5A02h) returns to factory defaults when this value is entered)	R/W		0
	H10	0010d (000Ah)	Word	Configuration menu, security parameter (0 = Menu invisible, 1 = Menu programmable, 2 = Menu only visible)	R/W	<i>Enc.</i>	1

INPUT REGISTERS

Parameter Numbur	Holding Register addresses Desimal (Hex)	Data Type	Data Content	Read / Write Permission
I0	0000d (0000h)	Word	Measured mA or V	R
I1	0001d (0001h)	Word	Reserved	R
I2	0002d (0002h)	Word	Ölçme hata kodları 0 = No error, 1 = sensor short circuit fault, 2 = Lower scale error, 3 = Upper scale error, 4 = Sensor disconnected or broken, 5 = Wrong input selection	R
I3	0003d (0003h)	Word	Reserved	R
I4	0004d (0004h)	Word	Reserved	R
I5	0005d (0005h)	Word	Reserved	R
I6	0006d (0006h)	Word	Current (active) decimal point value (0 = No decimal point, 1 = 0.0 ,2=0.00, 3=0.000	R

Memory Map for Software Revision Input Registers

Software Revision	65100d (FE4Ch)	16 Word	Software name and update is read in ASCII format and as 16 word. For example: EI4430-STM32.S19 Memory Format: <table border="1" style="font-family: monospace; font-size: 8px; text-align: center;"><tr><td>W0</td><td>W1</td><td>W2</td><td>W3</td><td>W4</td><td>W5</td><td>W6</td><td>W7</td><td>W8</td><td>W9</td><td>W10</td><td>W11</td><td>W12</td><td>W13</td><td>W14</td><td>W15</td></tr><tr><td>I</td><td>E</td><td>4</td><td>4</td><td>0</td><td>3</td><td>S</td><td>-</td><td>M</td><td>T</td><td>2</td><td>3</td><td>S</td><td>.</td><td>9</td><td>1</td><td></td></tr></table>	W0	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	I	E	4	4	0	3	S	-	M	T	2	3	S	.	9	1		R
W0	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15																						
I	E	4	4	0	3	S	-	M	T	2	3	S	.	9	1																						
Revision date	65200d (FEB0h)	8 Word	Revision Date is read in ASCII format and as 8 word. For example: RD.220516.071803 (RD.yymmdd.hhmmss) Memory Format: <table border="1" style="font-family: monospace; font-size: 8px; text-align: center;"><tr><td>W0</td><td>W1</td><td>W2</td><td>W3</td><td>W4</td><td>W5</td><td>W6</td><td>W7</td></tr><tr><td>D</td><td>R</td><td>.</td><td>0</td><td>2</td><td>1</td><td>5</td><td>.</td></tr><tr><td>6</td><td>7</td><td>0</td><td>8</td><td>1</td><td>3</td><td>0</td><td></td></tr></table>	W0	W1	W2	W3	W4	W5	W6	W7	D	R	.	0	2	1	5	.	6	7	0	8	1	3	0		R									
W0	W1	W2	W3	W4	W5	W6	W7																														
D	R	.	0	2	1	5	.																														
6	7	0	8	1	3	0																															

NOTE: To view each word correctly by changing the byte sequences should be displayed as ASCII TEXT

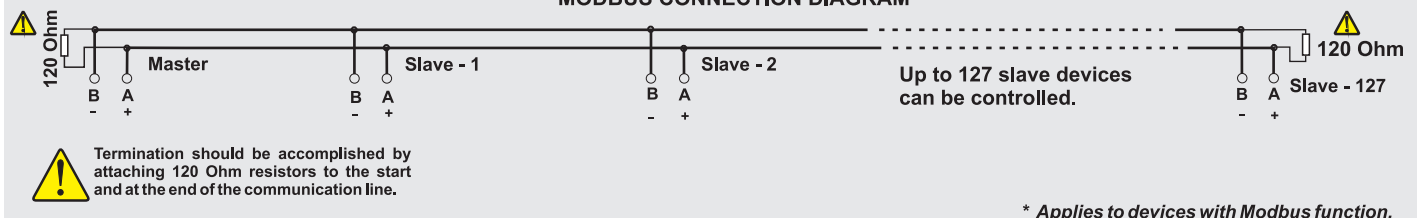
ModBus ERROR MESSAGES

Modbus protocol has two types error, communication error and operating error. Reason of the communication error is data corruption in transmission. Parity and CRC control should be done to prevent communication error. Receiver side checks parity and CRC of the data. If they are wrong, the message will be ignored. If format of the data is true but function doesn't perform for any reason, operating error occurs. Slave realizes error and sends error message. Most significant bit of function is changed '1' to indicate error in error message by slave. Error code is sent in data section. Master realizes error type via this message.

ModBus ERROR CODES

Error Code	Name	Meaning
01	ILLEGAL FUNCTION	The function code received in the query is not an allowable action for the slave. If a Poll Program Complete command was issued, this code indicates that no program function preceded it.
02	ILLEGAL DATA ADDRESS	The data address received in the query is not an allowable address for the slave.
03	ILLEGAL DATA VALUE	A value contained in the query data field is not an allowable value for the slave.

* MODBUS CONNECTION DIAGRAM



* Applies to devices with Modbus function.