



Dual Channel  
Bargraph Indicator

Single Channel  
Bargraph Indicator

## 40005E Bargraph Indicator

The 40005E is an Enhanced version of our Legacy model 40005 Bargraph indicators, additional capabilities have been added by way of multi-serial ports, Ethernet port, scanning speed, and Relay outputs. The model is available in single channel and dual channel format.

### Configuration

40005E is configured using the front keyboard and display or PC based mbGRAPH Configuration Software supplied with unit. The unit has a 4 digit numeric and 101 segment Bars to display process Value, Alarm/Trip and communication status are displayed by discrete LEDs on front fascia.

### Communication

40005E comes with one RS485 port as a standard, a second RS485 port and/or a Ethernet Port are options to enhance the communication capabilities of the unit and use it as an RTU, controller or protection device for parameters like Level, Vibration, Gas detection, etc.

### Control or Alarm

The optional 4 or 8 Relay outputs can be freely mapped to any channel set points and configured as control, Alarm or Trip functionality with Fail-Safe or Normal Logic. Any one relay can also be configured as a watchdog output.

### Analog Output

An isolated 4-20mA Re-Transmission output option is available for onward transmission to PLC/DCS/Recorder/SCADA

### Enclosure

40005E is housed in a 144X72 mm extruded Aluminum enclosure with an IP54 front fascia. All field inputs are wired to a detachable back plate for ease of wiring and reduce down time during replacement

### Features

- Microcontroller based
- Full 4 digit numeric & 101 segment bar display
- Universal Input
- Square root extractor
- Fully configurable & programmable by front keypad or PC based mbGRAPH Configuration Software
- Digital calibration
- Watchdog output
- Power Supply, Input & Output Isolated for 1500VAC
- Options :
  - Analog output (Isolated)
  - Redundant RS485 serial port
  - Ethernet (Modnet) port
  - 4 / 8 Relay Output
  - Built-in Transmitter Supply

### Applications

- Monitoring of Level, Vibration, Flow, etc
- Alarm/Trip Unit
- On/off Controller
- Digital Switch
- Gas Detection
- Marine-Utility Monitoring on Ships

# TECHNICAL SPECIFICATIONS

Input		Ethernet (Optional)	
No of Inputs	1 or 2	Interface	RJ45
Input Type & Measurement Range	Refer Table-1	Protocol	Modbus - TCP/IP(Modnet) Slave
Accuracy	±(0.1% of FS ± 1 count)	Baud Rate	10 Mbps
ADC Resolution	17 bits	<b>Transmitter Power Supply (Optional)</b>	24 VDC ± 5% @ 30 mA (one per channel)
Display Resolution	0.1 / 1.0 °C for temperature input	<b>Power Supply</b>	
Sampling Rate	T/C & Voltage/Current: 50mSec/Ch RTD: 100mSec/Ch	Power Supply	85 to 265VAC, 50/60 Hz 18-36V DC (optional)
CJC	Automatic for thermocouple input	Power Consumption	16VA (Max) [85-265V AC] 8VA (Max) [18-36VDC]
CJC Error	± 2 °C maximum	<b>Isolation (Withstanding voltage)</b>	
Sensor open	All inputs except 0-5V / 0-20 mA	Between primary terminals* and secondary terminals**: <b>At least 1500 V AC for 1 minute</b> Between primary terminals* and grounding terminal: <b>At least 1500 V AC for 1 minute</b> Between grounding terminal and secondary terminals**: <b>At least 1500 V AC for 1 minute</b> Between secondary terminals**: <b>At least 500 V AC for 1 minute</b>	
Sensor Burnout current	0.4µA	* Primary terminals indicate power terminals and relay output terminals. ** Secondary terminals indicate I/O signal and Communication O/P.	
RTD Excitation current	250µA (Approx.)	<b>Insulation resistance:</b> 20MΩ @ 500V DC or more between power terminals and grounding terminal.	
NMRR	> 40dB	<b>Physical</b>	
CMRR	> 120dB	Dimensions (mm)	144(H) x 72(W) x 165(D)
Temp-co	< 100ppm/°C	Front Bezel (mm)	144(H) x 72(W)
Input Impedance	> 1 MΩ	Panel Cutout (mm)	137(H) x 68.5(W)
Max Input Voltage	20VDC	Depth behind Panel (mm)	155
<b>Display &amp; keys</b>		Mounting	Panel Mount (Standard)
Process Value display (one per channel)	4- digit 7- segment Red LED (0.3")	Weight	1.25 Kg
Status indicating LED	Red LED's Tx/Rx, Relay status	Enclosure Material	Extruded Aluminum
Keys	Up/Down, MENU/ENTER, ESC	Protection	IP20 (Overall) IP54 (Front fascia)
<b>Bar Display (one per channel)</b>		<b>Environmental</b>	
LED Bar	101	Operating Temperature	-10 to 55 °C
Resolution	1%	Storage Temperature	0 to 80 °C
1st Bottom Bar Display	Under range	Humidity	20 to 95% RH non condensing
<b>Output</b>		<b>Table 1: Display Range</b>	
<b>Relay Output (Optional)</b>			
Relays	4 or 8 Nos		
Type	C-NO-NC		
Rating	2A @ 250 V AC / 30V DC		
Connector Type	25 D-Sub		
<b>Analog Output (Optional)</b>			
No. of outputs	One per channel		
Output Signal	0/4 to 20 mA (Isolated)		
Load Resistance	500Ω or less		
Output accuracy	± 0.25 % of span		
Resolution	16 bits		
<b>Communication Output</b>			
<b>RS485-1 (Standard) &amp; RS485-2 (Optional)</b>			
Interface	2 Wire, EIA RS485		
Protocol	Modbus-RTU Slave		
Baud Rate	9600 or 19200		

## ORDERING CODE

Model	No of Input Channel	Input Type				Ch1 Display				Ch2 Display				Aux Power Supply		Mounting		Communication		Analog output		Relay output		TPS output			
40005E	X	S	Single	1	E	X		X		X		X		XX	U1	85-265VAC	P0	Panel	1X	1 X RS485	N	None	N	None	N	No	
																											D
			3	K	G	Green	G	Green	R	Red	R	Red							1E	1 X RS485+ 1X RJ45	Y2	Dual o/p	8	8 Relays			
			4	T					G	Green	G	Green							2E	2 X RS485+ 1 X RJ45							
			5	B																							
			6	R																							
			7	S																							
			8	N																							
			9	Pt-100, 3W																							
			A	Cu53																							
			B	NI -120																							
			C	4-20mA																							
			D	0-20mA																							
			E	1-5VDC																							
			F	0-5VDC																							
			G	-10 to 20 mV																							
		H	0 to 100 mV																								
		I	0 to 10V DC																								