



Single Channel
Bargraph Indicator

Dual 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, 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 as an option 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

An optional 4 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
 - 4 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		Transmitter Power Supply	24 VDC ± 5% @ 30 mA (one per channel)	
No of Inputs	1 or 2	Power Supply		
Input Type & Measurement Range	Refer Table-1	Voltage	85-265 V AC, 50/60 Hz/ 100-295 V DC 18 - 36V DC (Optional)	
Accuracy	±(0.1% of FS ± 1 count)	Power Consumption	16VA (Max) [85-265V AC] 8VA (Max) [18-36VDC]	
ADC Resolution	17 bits	Isolation (Withstanding voltage) Between primary terminals* and secondary terminals**: At least 1500 V AC for 1 minute Between primary terminals* and grounding terminal: At least 1500 V AC for 1 minute Between grounding terminal and secondary terminals**: At least 1500 V AC for 1 minute Between secondary terminals**: At least 500 V AC for 1 minute * Primary terminals indicate power terminals and relay output terminals. ** Secondary terminals indicate I/O signal and Communication O/P.		
Display Resolution	0.1 / 1.0 °C	Insulation resistance: 20MΩ @ 500V DC or more between power terminals and grounding terminal.		
Sampling Rate	T/C & Voltage/Current: 50mSec/Ch RTD: 100mSec/Ch	Physical		
CJC	Automatic for thermocouple input	Dimensions (mm)	144(H) x 72(W) x 165(D)	
CJC Error	± 2 °C maximum	Front Bezel (mm)	144(H) x 72(W)	
Sensor open	All inputs except 0-5V / 0-20 mA	Panel Cutout (mm)	137(H) x 68.5(W)	
Sensor Burnout current	0.4µA	Depth behind Panel (mm)	155	
RTD Excitation current	250µA (Approx.)	Mounting	Panel Mount	
NMRR	> 40dB	Weight	1.25 Kg	
CMRR	> 120dB	Enclosure Material	Extruded Aluminum	
Temp-co	< 100ppm/°C	Protection	IP20 (Overall) IP54 (Front fascia)	
Input Impedance	> 1 MΩ	Environmental		
Max Input Voltage	20VDC	Operating Temperature	-10 to 55 °C	
Display & keys		Storage Temperature	0 to 80 °C	
Process Value display (one per channel)	0.3", 4- digit 7- segment Red LED	Humidity	20 to 95% RH non condensing	
Status indicating LED	Red LEDs Tx/Rx, Relay status	Table 1: Display Range		
Keys	Up/Down, MENU/ENTER, ESC	Input Type		
Bar Display (one per channel)		Range		
LED Bar	101	Thermocouple	E	-200 °C to 1000 °C
Resolution	1%		J	-200 °C to 1200 °C
1st Bottom Bar Display	Under range		K	-200 °C to 1372 °C
			T	-200 °C to 400 °C
			B	450 °C to 1820 °C
			R	0 to 1768 °C
			S	0 to 1768 °C
			N	-200 °C to 1300 °C
			Pt-100	-199.9 to 850.0 °C
		RTD	Cu-53	-210.0 °C to 210.0 °C
			NI-120	-70.0 °C to 210.0 °C
		Linear	0/1 to 5V DC	-1999 to 9999
			0/4 to 20mA (Ext. 250Ω)	-1999 to 9999
			-10 to 20 mV DC	-1999 to 9999
			0 to 100 mV DC	-1999 to 9999
			0 to 10V DC	-1999 to 9999
Output				
Relay Output (Optional)				
Relays	4 Nos			
Type	C-NO-NC			
Rating	2A @ 250 V AC / 30V DC			
Connector Type	25 D-Sub			
Analog Output (Optional)				
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			
Communication Output				
RS485-1 (Standard) & RS485-2 (Optional)				
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	Communication	Analog output	Relay output
			PV	Bar	PV	Bar	PV	Bar	PV	Bar				
40005E	X	X	X	X	X	X	X	X	X	XX	XX	X	X	
	S Single	1 E	R Red	R Red	N Not Applicable	N Not Applicable	N Not Applicable	N Not Applicable	N Not Applicable	U1 85-265 V AC / 100-295 V DC	1X 1 X RS485	N None	N None	
	D Dual	2 J	G Green	G Green	R Red	R Red	R Red	R Red	R Red	U2 18-36VDC	2X 2 X RS485	Y1 Single o/p	4 4 Relays	
		3 K			G Green	G Green	G Green	G Green	G Green			Y2 Dual o/p		
		4 T												
		5 B												
		6 R												
		7 S												
		8 N												
		9 Pt-100, 3W												
		A Cu-53												
		B NI -120												
		C 4-20mA												
		D 0-20mA												
		E 1-5V DC												
		F 0-5V DC												
		G -10 to 20 mV DC												
		H 0 to 100 mV DC												
		I 0 to 10V DC												