

■ Programmable Universal Counter Model CM 3001

Characteristics

- LED-Display, red, 6 decades, 14 mm
- Display range -99999 .. 999999
- DIN Housing 96 x 48 mm
- Operating mode programmable
- Data storage at power fail
- Accessory power supply for the encoder
- 2 alarm relay, analog output, interface
- Plug-In screw terminal



Modes

- Incremental A 90° B x 1
A 90° B x 2, A 90° B x 4
- UP/DOWN + Direction
- Puls counter A
A-B, A+B, A/B, (A-B)/A, (B-A)/A
- Frequency-/Rotation speed measurement A
A-B, A+B, A/B, (A-B)/A, (B-A)/A
- Cycle duration measurement
- Pulse duration measurement
- Time meter about Start/Stop

Software functions

The universal counter is equipped with following functions:

- Scaling factor 0,00001 .. 9,99999
- programmable offset value
- MIN/MAX value detection
- Auto-Reset for MIN/MAX value
- Displaytest and displayhold
- Setting of alarm points during measurement

Signal inputs

The signal inputs are programmable to several encoder output logic:

- PNP- or NPN-Logic
- 5 V (TTL), 12 V or 24 V signal level
- 25 Hz signal input filter

Push buttons at the front

The three push buttons could be programmed to following functions:

- No function
- Resetting Measured value or MIN/MAX value
- Displaying Measured-, MIN- or MAX-Value
- Manual alarm point reset
- Displaying and setting of alarm points

Digital Input Channel

These both input are low active and could be programmed to following functions:

- No function
- Resetting Measured- or MIN/MAX-value
- Displaying Measured-, MIN- or MAX-value
- Manual alarm point reset
- Displayhold or displaytest

Accessory power supply (only at AC-Version)

Built-in power supply for encoders, 24 V DC/125 mA, isolated to the further electronic.

Alarm outputs

Two (Four at option) programmable alarm outputs with free allocation allows the monitoring of production operation. Programmable parameters:

- Alarm point and hysteresis
- Relay function (high or low alarm)
- Alarm response time (Fall off and put on time)
- Data source (Measured-, Hold-, MIN- or MAX-value)

Option analog output

The option analog output is provided with a current output and a voltage output. Both output are isolated from the further electronic.

- To scale (offset and final value)
- Output 0(2) - 10 V or 0(4) - 20 mA
- Data source (Measured-, Hold-, MIN- or MAX-value)

Optionen serial interfaces

Addition to data communication or to a printer

- RS 485
- RS 232 (analog output not possible)
- Current-Loop, TTY (analog output not possible)

Elektrical Datas

Counter incremental	counter steps 24 Bit
Count frequency	max. 4,5 kHz
UP/DOWN-counter + direction	counter steps
24 Bit	
count frequency	max. 10 kHz
Puls counter	counter steps 24 Bit
Count frequency	max. 10 kHz
Frequency/rotation speed	
1-channel mode	max. 20 kHz
Resolution	0,01 Hz auto., 0,1 Hz, 1 Hz
2-channel mode	max. 10 kHz
Resolution	1 Hz
Cycle duration	0,0001 s .. 999999 s
Pulse duration	0,0001 s .. 999999 s
Time meter	0,0001 s .. 999999 s
or	00.00.00 h .. 99.59.59 h
Accuracy	
Frequency measurings	< 0,01 %
Time measurings	< 0,02 %
Update rate	
Counter modes	60 ms
Frequency-/Time meter	100 ms
Signal input filter	25 Hz programmable
Data storage	> 10 years (NOVRAM)
Signal inputs	4, input A, B, Reset, Tor
Logic	PNP-, NPN
Signal level	5 V (TTL), 12 V, 24 V
Digital user inputs	2, programmable function
Logic	NPN, max. 30 V
Alarm outputs	2 (4) Relays (programmable as
	opened contact or closed contact)
Signaling	2 LEDs at the front
Switch voltage	250 V AC / 250 V DC
Switch current	5 A AC / 5 A DC
Switch power	750 VA / 100 W
Analog output	resolution 16 bit
Accuracy	± 0,2% of final value
Nonlinearity	± 0,012 %
Voltage	0(2) - 10 V, max. 10 mA
Current	0(4) - 20 mA; max. 500 Ω
Isolation voltage	3 kV / 1 min
Interfaces	RS 485, RS 232, TTY
Protocol	DIN 66 019 / ISO 1745
Isolation voltage	1,6 kV / 1 min
Power supply voltage AC	95 V to 250 V/AC
Isolation voltage	2,5 kV / 1 min
Power supply voltage DC	18 .. 36 V DC
Isolation voltage	500 V / 1 min
Power consumption	AC 9 VA, DC 70 mA
Accessory power supply	24 V DC / 125 mA (only at AC)
Isolation voltage	500 V / 1 min

Mechanical Datas

Display	6 decades, 14 mm, red Decimal point programmable preliminary zero suppression - sign at negative values
Operation, keyboard design	front membrane with push buttons
Case	switch board mounting DIN 43700
Dimensions (B x H x T)	96 x 48 x 141 mm
Depth	148 mm incl. screw terminal
Mounting	switch board mounting or mosaic-systems
Weight	ca. 400 g
Connection	Plug-In screw terminal

Environmental conditions

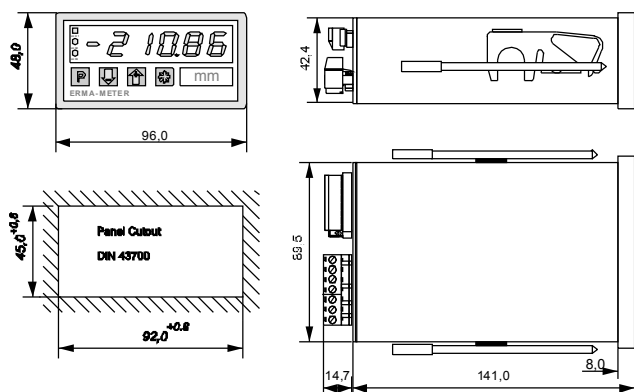
Operating temperature	0 .. 50 °C
Storage temperature	-20 .. 70 °C
Humidity	< 80 %, not-condensing
Protection	protective class II
Front protection	IP 54
Field of application	class 2, overvoltage protection II
CE	in conform with 89/336/EWG NSR 73/23/EWG

Ordering information

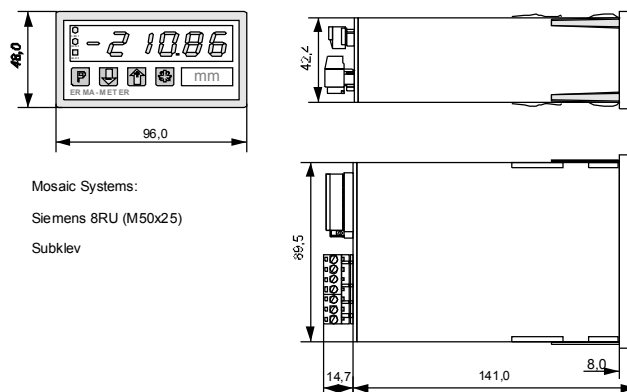
CM 3001-	
	Housing type
	0 Switch board
	1 Panel-Clip
	Front frame colour
	0 black
	Front design
	0 ERMA-Meter Logo
	1 No Logo
	2 Customer defined Logo
	Power supply
	0 95 .. 250 V/AC
	1 18 .. 36 V/DC, isolated
	Option interface
	0 No interface
	1 Interface RS 485
0	2 Interface RS 232
0	3 Interface Current-Loop, TTY
	Options
	0 No options
	1 With analog output
	4 in addition two alarm outputs

Dimensions and Mounting

Switch board mounting



Panel-Clip



Mosaic Systems:
Siemens 8RU (M50x25)
Subklev