OMX 333UQC

PROGRAMMABLE ISOLATED TRANSMITTER

- COUNTER/FREQUENCY/CLOCK/TIMER
- DIGITAL FILTERS, TARE, LINEARIZATION, SUM
- OUTPUT: 0/4...20 mA/0...5 mA/0...2/5/10 V/±10 V
- GALVANIC SEPARATION: 2,5 kVAC
- POWER SUPPLY 10...30 VDC/24 VAC
- Option
  Comparators • Data output

The OMX 333 model series are simple DIN rail mountable programmable transmitters.
Type OMX 333UQC is a universal transmitter - counter/frequency meter/timer/clock adjustable in the instrument´s menu.
The instrument is based on a single-chip microcontroller, which provides good stability and ease of use.

OMX 333UQC
UNIVERSAL COUNTER

OPERATION

Instrument can be controlled by two push buttons and a DIP switch located on the front panel. When frequent changes of settings are needed, we recomend the use of OM Link interface, which in conjunction with free control SW alows for modification and storage of all instrument's settings and also for firmware upload (using OM Ling cable) from a PC.

The above mentioned SW can also be used for visualisation and archiving of measured values from a number of instruments via the RS 485 line.

All settings are stored in the EEPROM memory (they hold even after the instrument is switched off).

OPTION

COMPARATORS are assigned to monitor two limit values with relay output. The limits have adjustable hysteresis within the full range of the display as well as selectable delay of the switch-on in the range of 0...99,9 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

DATA OUTPUTS are for their rate and accuracy suitable for transmission of the measured data for further projection or directly into the control systems. We offer an isolated RS485 with ASCII protocol.

STANDARD FUNCTIONS

PROGRAMMABLE INPUT
Setting: measuring mode counter/frequency with adjustable calibration coefficient and time base

ANALOG OUTPUT
Type: isolated, programmable with a resolution of 16 bit, rate < 0,2 ms
Ranges: 0...2/5/10 V/±10 V, 0...5 mA/0/4...20 mA (comp. < 600 Ω)

FUNCTIONS
Linearization: through linear interpolation in 25 points (solely via OM Link)
Tare: designed to reset display upon non-zero input signal
Preset: initial nonzero value that is always read after resetting the device

DIGITAL FILTERS
Exponential average: from 2...100 measurements
Rounding: setting the projection step for display
Input filter: passes the input signal up to 5...1 000 Hz

EXTERNAL CONTROL
Hold: display/instrument blocking
Lock: control keys blocking
Tare: activation and tare resetting
Resetting: counter resetting

TECHNICAL DATA

INPUT

UQC	Input	optional in configuration menu on contact, TTL, NPN/PNP 0...30/300 V, comparison levels are adjustable in the menu (9,7 / 14,4 / 19,2 / 23,9 / 28,7 / 33,5 / 38,3 V) or automatic
	Input frequency	0,1 Hz...50 kHz (Mode SINGLE) 0,1 Hz...20 kHz (Mode UP/DW) 0,1 Hz...20 kHz (Mode UP-DW) 0,1 Hz...20 kHz (Mode QUADR. - frequency) 0,1 Hz...10 kHz (Mode QUADR. - counter) (for duty cycle 50 %)
	Measur. mode	SINGLE counter/frequency QUADR counter/freq. meter for IRC sensors UP/DW UP/DW counter/freq. meter - measures on inputs A, B (direction) and can display numbers/frequency UP - DW UP - DW counter/frequency - measures on inputs A (UP), B (DW) and can display numbers/frequency TIME Timer RTC Clock
	Time base	0,5/1/5/10 s
	Multipl. constant	0,00001...999999
	Dividing constant	0,00001...999999
	Preset	0...999999
	Input filter	0/5/40/100/1000 Hz allows you to set the maximum valid frequency that is being processed
	Functions	Preset Summation Time backup (Timer/clock)
External input		1 input, on contact The following functions can be assigned: OFF input off HLD. display stop LOCK control keys blocking TAR. tare activation CLEAR display reset CLR.ST. reset/counter preset/timer CL.SUM. sum reset

INSTRUMENT ACCURACY

TK: 50 ppm/°C
Accuracy: ±0,01% of range
Rate: 0,5...100 measur./s
Overload capacity: 2x; 10x (t < 30 ms)
Digital filters: exponential average, rounding, 1/frequency, measurement to full speed (division constant)
Functions: Tare
Linearization: through linear interpolation in 25 points
OM Link: Company communication interface for operation, setting and update of instruments.
Watch-dog: reset after 500 ms
Calibration: at 25°C and 40 % r.h.

COMPARATOR

Type: digital, menu adjustable, contact switch-on < 50 ms
Hysteresis mode: switching limit, hysteresis band „Lim ±1/2 Hys." and time (0...99,9 s) determining the switching delay
Mode C-Puls - automatic counter resetting at the set value
Mode Once - switching limit, which will switch off only after the counter has been reset
Mode On Run - output is active when the timer is running
Output: 1...2x Form A relays (250 VAC/30 VDC, 3 A); 1...2x open collector (30 VDC/100 mA)

DATA OUTPUTS

Protocol: ASCII
Data format: 8 bit + no parity + 1 stop bit (ASCII)
Rate: 600...230 400 Baud
RS 485: isolated, addressing (max. 31 instruments)

ANALOG OUTPUTS

Type: isolated, programmable with a 16 bit D/A converter, type and range are selectable in menu
Non-linearity: 0,1% of range
TK: 15 ppm/°C
Rate: response to change of value < 1 ms
Ranges: 0...2/5/10 V, ±10 V, 0...5 mA, 0/4...20 mA (comp. < 600 Ω/12 V)
Ripple: 5 mV residual ripple at output voltage of 10 V

POWER SUPPLY

Range: 10...30 VDC/24 VAC, ±10 %, PF≥0,4, I_{STP}< 40 A/1 ms
10...30 VDC/24 VAC, ±10 %, PF≥0,4, I_{STP}< 40 A/1 ms, isolated
Consumption: < 2 W/2 VA

MECHANIC PROPERTIES

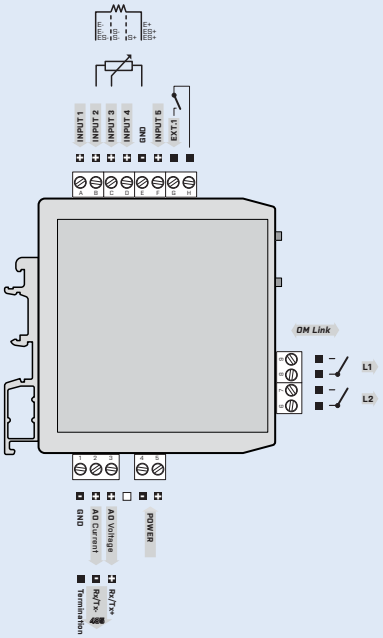
Material: PA 66, incombustible UL 94 V0, blue
Dimensions: 25 x 79 x 90,5 (w x h x d)
Installation: on DIN rail, width 35 mm

OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1,5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: -20°...60°C
Storage temperature: -20°...80°C
Protection: IP20
El. safety: EN 61010-1, A2
Dielectric strength: 2,5kV per 1 min test between pow. supply, inputs and outputs
Insulation resistance: for pollution degree II, measuring cat. III power supply > 550 V (PI), 255 V (DI)
EMC: EN 61326-1

PI - Primary insulation, DI - Double insulation

CONNECTION



ORDER CODE

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Power supply	10...30 VDC/24 VAC	**0**			
	10...30 VDC/24 VAC, isolated	**1**			
Comparators	**no**		**0**		
	1x relay (Form A)		**1**		
	2x relay (Form A)		**2**		
	1x open collector		**3**		
	2x open collector		**4**		
Output	none			**0**	
	analog			**1**	
	RS 485			**2**	
Specification	**customized version, do not fill in**				**00**

Basic configuration of the instrument is indicated in bold.