OML 643RS

- 6-digit programmable projection
- Input RS 485
- Digital filters
- Size of DIN 96 x 48 mm
- Power supply 10...30 VDC / 24 VAC

Option
Comparator

DATA DISPLAY RS 485

Type OML 643RS is a 6-digit data display from the serial line RS 485 with a box depth of only 30 mm.

The instrument is based on a single-chip microcontroller, which secures good accuracy, stability and easy operation of the instrument.

OPERATION

The instrument is set and controlled by five buttons accessible from the rear. All programmable settings of the instrument may be performed in three adjusting modes:

LIGHT MENU is protected by optional number code and contains solely items necessary for instrument setting.

PROFI MENU is protected by optional number code and contains complete instrument setting.

USER MENU may contain arbitrary items from the programming menu (LIGHT/PROFI), which determine the right (see, change). Access w/o password.

Standard equipment is the OM Link interface, which together with operation program enables modification and filing of all instrument settings as well as performing firmware updates (with OML cable). The program is also designed for visualization and filing of measured values from more instruments.

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

OPTION

COMPARATOR is assigned to monitor one limit value 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.

STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION
Input: RS 485
Protocol: ASCII - Master/Slave/Universal or Modbus RTU
Projection: -99999...999999

DIGITAL FILTERS
Exponential average: from 2...100 measurements
Rounding: setting the projection step for display

TECHNICAL DATA

INPUT

No. of inputs		1
RS	Input	RS 485
	Protocol	**ASCII - Master** - the instrument controls data sending from the slave system - „COMM" can be used to select the received data - the instrument asks with the rate of 10 queries/s **ASCII - Slave** - Passive bus display where other devices or computers communicate in „MAST." mode. If the „COMM" and the requested data are correctly received, they will be displayed by the instrument **ASCII - Universal** - in dynamic menu items (Stat, Ad.Un, Sign, Data, Stop, Req.) you can build your own communication protocol format **Modbus RTU**
	Format	8 bit + no parity + 1 stop bit
	Adresse	ASCII 0...31 Modbus 1...247
	Rate	300...230 400 Baud
	Line termination	short-circuit jumper on the connector *resistance inside the instrument is 120 R*

PROJECTION

Display	-99999...999999, single color 7-segment LED 99.59.59 hours/minutes/seconds TIME 23.59.59 hours/minutes/seconds TIME 99.59 hours/minutes TIME 9999.59 hours/minute TIME 9999.59 minuty/seconds TIME 59.59.99 minuty/seconds/hundredths TIME 99.59.99 minuty/seconds/hundredths TIME 9.59.59.9 hours/min./seconds/hundredths TIME
Digit height	9.1 mm
Display color	red or green
Decimal point	adjustable - in menu
Brightness	adjustable or automatically controllable

INSTRUMENT SPECIFICATION

TC	50 ppm/°C
Accuracy	±0.05 % of value ±0.01 % of value ±2 ms TIME ±0.01 % of value ±130 ms RTC
Overload	10x (t < 30 ms), 2x
Digital filters	exponential average, rouding
Linearization	linear interpolation in 25 points *setup only via OM Link*
Time backup	Lithium cell CR 2032, 3V/220 mAh
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.

RELAYS / OC OUTPUT

No. of outputs	1
Type	digital, menu adjustable
Mode	HYSTER. active above set value
Function Relays/OC	CLOSE is closed in active mode OPEN is open in active mode READY output indicates error-free status ERROR output indicates an error condition
Limits	-99999...999999
Hysteresis	0...999999
Delay	0...99.9 s
Outputs	1x relay with switch-on contact (Form A) (250 VAC/30 VDC, 3 A)* 1x open collector (30 VDC/100 mA)
Relays	1/8 HP 277 VAC, 1/10 HP 125 V, Pilot Duty D300

* values apply for resistance load

POWER SUPPLY

Range	10...30 VDC / 24 VAC, ±10 %, PF ≥ 0.4, I_{STP} < 45 A / 1 ms, isolated
Consumption	< 1.8 W / 1.9 VA

MECHANIC PROPERTIES

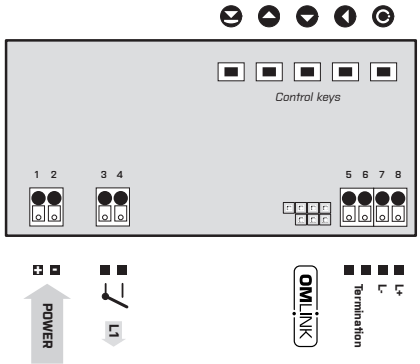
Material	PC, incombustible UL 94 V-I, black
Dimensions	96 x 48 x 30 mm (w x h x d)
Panel cutout	92 x 44 mm (w x h)

OPERATING CONDITIONS

Connection	terminal blocks, section < 1.5 mm²
Stabilization period	within 5 minutes after switch-on
Working temperat.	-20°...60°C
Storage temperat.	-20°...85°C
Working humidity	< 95 % r.v., non condensing
Protection	IP65, front panel only with a gasket
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2.5 kVAC for 1 min. between power supply and input 4 kVAC per 1 min test between input and relay output
Insulation resist.*	for pollution degree II, measuring cat. III power supply, input > 300 V (PI) input, output > 300 V (DI)
EMC	EN 61326-1:2021, Industrial area
RoHS	EN IEC 63000:2018
Seismic capacity	IEC 980: 1993, par. 6

* PI - Primary insulation, DI - Double insulation

CONNECTION



ORDER CODE

OML 643RS - [ ][ ][ ][ ][ ][ ] - [ ]

Power supply	10...30 VDC / 24 VAC	**0**					
	10...30 VDC / 24 VAC, isolated	1					
Protocol	ASCII		**A**				
	Modbus RTU		B				
Comparator	no			**0**			
	1x relay (Form A)			1			
	1x open collector			2			
Display color	red				**1**		
	green				2		
Gasket	no					**0**	
Silicone gasket between instrument and panel	yes					1	
Specification	customized version, do not fill in						**00**

Basic configuration of the instrument is indicated in bold.