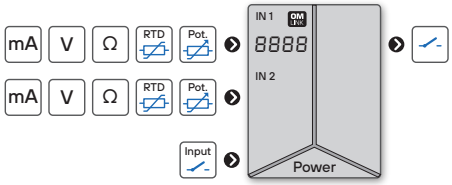
OMB 502UNI

- Three-color bargraph - 2x 50 LED
- Two-channel design
- Multifunction input (PM, OHM, RTD, DU)
- Digital filters, Linearization
- Size of DIN 144 x 48 mm
- Power supply 10...30 V AC/DC; 80...250 V AC/DC

Option

Comparators

UNIVERSAL DUAL BARGRAPH



The OMB 200/300/500UNI model series are simple bargraphs designed for maximum efficiency and user comfort while maintaining their favourable price.

Type OMB 502UNI is a multifunction instrument with the option of configuration for 5 various input options, easily configurable in the instrument menu.

The instrument is based on a microcontroller with ADC which secures good accuracy, stability and easy operation of the instrument.

By selecting the insertion mode of the front plexiglass (reverse/face) you may choose the required scale printing for vertical or horizontal design of the instrument.

OPERATION

The instrument is set and controlled by five buttons located under the front panel. All programmable settings of the instrument may be performed in two adjusting modes.

LIGHT MENU contains solely items necessary for instrument setting.

PROFI MENU contains complete instrument setting, which is accessible only via OM Link.

Standard equipment is the OM Link interface, which together with the operation program enables modification and filing of all instrument settings as well as performing firmware updates (with OML cable).

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

OPTION

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

STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION
Selection: of input type and measuring range
Setting: manual, in menu optional projection on the display may be set for both limit values of the input signal
Projection: 50 LED

FUNCTIONS
Linearization: non-linear signal is converted by a 25-point linear interpolation

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

EXTERNAL CONTROL
Hold: display/instrument blocking
Lock: control keys blocking

TECHNICAL DATA

INPUT

No. of inputs		2 The range is adjustable in the instrument menu	
PM	Range	0...20 mA < 1.2 V Input 1 4...20 mA < 1.2 V Input 1 0...2 V 182 kΩ Input 2 0...5 V 182 kΩ Input 2 0...10 V 182 kΩ Input 2	
OHM	Range	0...100 kΩ	
	Connection	2-wire	
RTD	Range	Pt 1 000, 3 850 ppm/°C	-50°...450°C
	Connection	2-wire	
Ni	Range	Ni 1 000, 5 000 ppm/°C	-50°...250°C
	Connection	2-wire	
DU	Sensor power supply	2.5 VDC/6 mA, potentiometer resistance > 500 Ω	

EXTERNAL INPUT

No. of inputs	1, on contact
Function	OFF no function assigned LOCK control keys blocking HOLD measurement paused

PROJECTION

Bargraph display	2x 50 LED
Bar color	red / green / orange
Brightness	adjustable - in menu

INSTRUMENT SPECIFICATION

TC	50 ppm/°C
Accuracy	±1% of FS + 1 digit
Rate	0.5...50 measurement/s
Overload	10x (t < 30 ms), 2x
Compensation of conduct	< 30 Ω RTD
Digital filters	exponential average, rounding
Linearization	linear interpolation in 25 points *setup only via OM Link*
OM Link	company communication interface for operation, setting and update of instruments
Watch-dog	reset after 25 ms
Calibration	at 25°C and 40 % r.h.

RELAYS / OC OUTPUT

No. of outputs	up to 2
Type	digital, menu adjustable
Mode	HYSTER. active above set value
Function Relays	CLOSE is closed in active mode OPEN is open in active mode
Limits	-99999...999999
Hysteresis	0...999999
Delay	0...99.9 s
Outputs	1...2x relay with switch-on contact (Form A) (250 VAC/30 VDC, 3 A)* 1...2x 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 V AC/DC, ±10 %, PF ≥ 0.4, I_{STP} < 40 A / 1 ms, isolated 80...250 V AC/DC, ±10 %, PF ≥ 0.4, I_{STP} < 40 A / 1 ms, isolated *Protection by fuse inside the device.*
Consumption	< 5.0 W / 5.4 VA

MECHANIC PROPERTIES

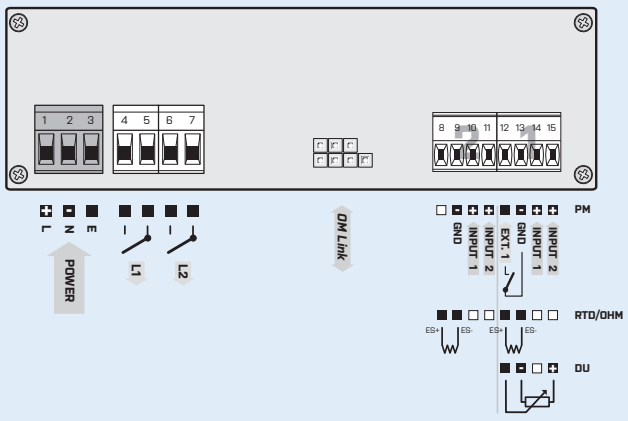
Material	Noryl GFN2 SE1, incombustible UL 94 V-I, black
Dimensions	144 x 48 x 75 mm (w x h x d)
Panel cutout	138 x 43.5 mm (w x h)

OPERATING CONDITIONS

Connection	connector terminal blocks, section < 1.5 / 2.5 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	IP40, front panel only
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 > 300 V (PI) input, output > 300 V (PI), 150 V (DI)
EMC	EN 61326-1, Industrial area
Seismic qualification	IEC/IEEE 60980-344 Edition 1.0, 2020, par. 6, 9
Mechanical resistance	EN 60068-2-6 ed. 2:2008

* PI - Primary insulation, DI - Double insulation

CONNECTION



ORDER CODE

OMB 502UNI - □□ - □

Power supply	10...30 V AC/DC	**0**		
	80...250 V AC/DC	**1**		
Comparators	no		**0**	
	1x relay (Form A)		**1**	
	2x relay (Form A)		**2**	
	1x open collector		**3**	
	2x open collector		**4**	
Specification	customized version, do not fill in			**00**

Basic configuration of the instrument is indicated in bold.