

Large Universal Display

Series *INGU*

Ref : I FP 2119

Rev :



DESCRIPTION

This device is a large programmable display for indoor and outdoor use with IP64 waterproofing. It is a multifunction indicator with a configuration of 8 different input options, easily configurable in the device menu. Thanks to another extension of the entry modules, the number of entries can be extended up to 4 (applicable for the entry process). The device is based on an 8-bit microcontroller with 24-bit multi-channel sigma delta converter, which ensures high precision and stability. Large displays are suitable for displaying measurement data on production and operations lines with readability up to 80 m. A wall mounting system is supplied as standard.

CONTROL

The device is developed and controlled by IR remote control. All settings of the device can be achieved by 3 types of programming:

THE LIGHT MENU is protected by an optional numeric code and contains only the stations required for adjusting the device.

THE PROFI MENU is protected by an optional numeric code and contains the entire device setting.

THE USER MENU can contain arbitrary items, chosen from the menu programming (LIGHT / PROFI) to which permission is given (see or edit). Access is free, without the password.

The device is equipped as standard with the OMLink interface which allows you to modify the program and save all device settings as well as update the internal software of the device (with the OML cable).

All settings are saved in EEPROM memory (they remain in memory in the event of a power failure).

The unit of measurement can be displayed on the 6-digit displays

OPTION

SENSOR EXCITATION is suitable for supplying sensors and transmitters. It is continuously adjustable in the range of 5... 24 V.

ALARMS are assigned to monitoring one, two, three or four values limits with Relay Output As user, you can select the mode limit: LIMIT / DOSAGE / UNTIL. Limits have adjustable hysteresis in the Display range as well as the adjustable switch-on time of 0... 99.9 s. Exceeding the predefined limits is signaled by an LED and by starting the relay.

THE COMMUNICATIONS OUTPUTS are, for the transmission of the measurement for display repetition or directly in the control systems. Isolated type RS232 and RS485 with the ASCII / PROFIBUS protocol.

Isolated ANALOG OUTPUTS are useful when you need to process data in an external system. This universal SA allows the selection of the output type - voltage / current. The analog output value corresponds with the displayed values, the type and the range can be selected in the menu

STANDARD FUNCTIONS

Selection: input type and measurement range
Measuring range: adjustable, fixed or with automatic change (OHM)
Setting: manual, in the display menu, it can be set for both values input signal limits, for example input 0... 10.00 V > 0... 850.0
Display: -999... 9999 / -99999... 999999

COMPENSATION

Line (RTD, OHM): automatic (wire 3- and 4-) or manual in the menu (wire 2-)
Probes (RTD): internal connection (resistance of the pipe in the head measured)
Cold junction (T / C): manual or automatic, in the menu it is possible to select the type of thermocouple and the cold junction compensation, which is adjustable or automatic

FUNCTION

Linearization: 50-point linearization curve (only with OM Link)
Tare: designed to reset the display to zero when the input signal drifts
Min./max. Value: recording of the min / max values reached during the measurement
PEAK value: displays the maximum or minimum value
Mathematical operations: polynomial, 1 / x, logarithm, exponential, square, root carree, sin x and Orders between Entrees

DIGITAL FILTER

Floating / Exp. / Average arithmetic: on 2... 30/100/100 measures
Rounding: setting the filter for the display

EXTERNAL ORDER

Lock: key lock
Blocking: display blocking
Tare: activation of the tare
RESET MM: RESET min./max. value
Entrance: NPN,

TECHNICAL DATA

MODÈLE	
INPUT Number of inputs	1
DC Range	Selectable in the menu $\pm 60 \text{ mV} > 100 \text{ M}\Omega$ Input U $\pm 150 \text{ mV} > 100 \text{ M}\Omega$ Input U $\pm 300 \text{ mV} > 100 \text{ M}\Omega$ Input U $\pm 1\ 200 \text{ mV} > 100 \text{ M}\Omega$ Input U
PM Range	Selectable in the menu $0 \dots 20 \text{ mA} < 400 \text{ mV}$ Input I $4 \dots 20 \text{ mA} < 400 \text{ mV}$ Input I $\pm 2 \text{ V } 1 \text{ M}\Omega$ Input U $\pm 5 \text{ V } 1 \text{ M}\Omega$ Input U $\pm 10 \text{ V } 1 \text{ M}\Omega$ Input U $\pm 40 \text{ V } 1 \text{ M}\Omega$ Input U
OHM Range	Selectable in the menu with automatic range change $0 \dots 100 \Omega$ $0 \dots 1 \text{ k}\Omega$ $0 \dots 10 \text{ k}\Omega$ $0 \dots 100 \text{ k}\Omega$
Pt Type 100,500 etc.	Connexion : 2, 3 or 4 wires Selectable in the menu $\text{EU} > 100/500/1\ 000 \Omega, 3\ 850 \text{ ppm}/^\circ\text{C}$ $-50^\circ \dots 450^\circ\text{C}$ $\text{US} > 100 \Omega, 3\ 920 \text{ ppm}/^\circ\text{C}$ $-50^\circ \dots 450^\circ\text{C}$ $\text{RU} > 50 \Omega, 3\ 910 \text{ ppm}/^\circ\text{C}$ $-200^\circ \dots 1\ 100^\circ\text{C}$ $\text{RU} > 100 \Omega, 3\ 910 \text{ ppm}/^\circ\text{C}$ $-200^\circ \dots 450^\circ\text{C}$
Ni Type	Connexion : 2, 3 or 4 wires Selectable in the menu $\text{Ni } 1\ 000/10\ 000, 5\ 000 \text{ ppm}/^\circ\text{C}$ $-50^\circ \dots 250^\circ\text{C}$ $\text{Ni } 1\ 000/10\ 000, 6\ 180 \text{ ppm}/^\circ\text{C}$ $-50^\circ \dots 250^\circ\text{C}$
Cu Type	Connexion : 2, 3 or 4 wires Selectable in the menu $\text{Cu } 50/100, 4\ 260 \text{ ppm}/^\circ\text{C}$ $-50^\circ \dots 200^\circ\text{C}$ $\text{Cu } 50/100, 4\ 280 \text{ ppm}/^\circ\text{C}$ $-200^\circ \dots 200^\circ\text{C}$
T/C Type	Connexion : 2, 3 or 4 wires Selectable in the menu J (Fe-CuNi) $-200^\circ \dots 900^\circ\text{C}$ K (NiCr-Ni) $-200^\circ \dots 1\ 300^\circ\text{C}$ T (Cu-CuNi) $-200^\circ \dots 400^\circ\text{C}$ E (NiCr-CuNi) $-200^\circ \dots 690^\circ\text{C}$ B (PtRh30-PtRh6) $300^\circ \dots 1\ 820^\circ\text{C}$ S (PtRh10-Pt) $-50^\circ \dots 1\ 760^\circ\text{C}$ R (Pt13Rh-Pt) $-50^\circ \dots 1\ 740^\circ\text{C}$ N (Omegalloy) $-200^\circ \dots 1\ 300^\circ\text{C}$ L (Fe-CuNi) $-200^\circ \dots 900^\circ\text{C}$
DU Alimentat. potent. linear	2 VDC/6 mA, Resistance potentiometer $> 500 \Omega$
Ext. input	3 inputs, on contact The following functions can be assigned OFF / HOLD / LOCK / PASS. / TARE A...H/ CL. T.A...H / CL. M.M. / SAVE / CL. ME. / SWITCH.

DISPLAY

Display: -999... 9999 or -99999... 999999

Red or Green - High Brightness LED

Tri-Color - LED

Number of Digits: 4 (100/125 mm) or 6 (57/100/125 mm)

Height of figures: 57, 100 or 125 mm

Display color: red or green (High brightness - 1200 mcd)

red / green / orange

Unit of Measure: the last two Digits, on a 6-Digit display, can be used to display the unit of the measured value (Adjustable in the menu)

ALARMS

Type: digital adjustable in the menu, response time <30 ms

Hysteresis mode: switching limit, hysteresis band "Lim ± 1 / 2Hys."

and time (± 99.9 s), which determine the switching delay

'From - to' mode: on and off interval

Dosage mode: Correction of Pier mode

Output: 1... 4x Form A Relay (250 VAC / 50 VDC, 3 A)

DATA OUTPUTS

Protocol : ASCII, MESSBUS, MODBUS RTU, PROFIBUS DP

Data format: 8 bit + no parity + 1 stop bit (ASCII)

7 bits + even parity + 1 stop bit (Messbus)

Speed: 600... 230,400 Baud, 0.0096... 12 Mbaud (PROFIBUS)

RS 232: isolated

RS 485: isolated, addressing (max. 31 devices)

POWER SUPPLY

Range: 10... 30 V AC / DC, $\pm 10\%$, PF ≥ 0.4 , ISTOP <75 A / 1 ms, isolated

80... 250 V AC / DC, $\pm 10\%$, PF ≥ 0.4 , ISTOP <45 A / 1 ms, isolated

Consumption: <22 W / 22 VA

The power supply is protected by a fuse inside the device

MECHANICAL CHARACTERISTICS

Matériel : Aluminium anodisé, noir

Dimensions : voir l'image

DEVICE ACCURACY

TC: 50 ppm / ° C

Accuracy: $\pm 0.1\%$ of range + 1 digit (for display 9999 and 5 meas./s)

$\pm 0.15\%$ of range + 1 digits PT, T / C

Cold junction accuracy: ± 1.5 ° C

Speed: 0.1... 40 measurement / s

Possible overload: 2x; 10x (t <30 ms) - not for > 200 V and 5 A

Resolution (RTD, T / C): 1 ° / 0.1 ° / 0.01 ° C

Line compensation: max. 30 Ω (RTD)

Cold junction compensation: adjustable -20 °... 99 ° C or automatic

Linearization: 50-point linearization curve (only with OM Link)

Digital filter: average exp / floating / arithmetic, rounded

Function: offset, minimum and maximum value, tare, PEAK value, math operations.

OM Link: Communication interface for Control, Adjustment and Update of devices

Watchdog: Reset after 400 ms

Calibration: at 25 ° C and 40% RH

ANALOG OUTPUTS

Type: isolated, programmable with 16-bit resolution, the type and range are adjustable in the menu

Non-linearity: 0.1% of the range

TC: 15 ppm / ° C

Speed: response time value change <1 ms

Ranges : 0... 2/5/10 V, ± 10 V, 0... 5 mA, 0/4... 20 mA (comp. <600 Ω / 12 V or 1000 Ω / 24 V)

SENSOR EXCITATION

Adjustable: 5... 24 VDC / max. 1.2 W

TERMS OF USE

Connection: pluggable screw connector, section <1.5 / 2.5 mm²

Stabilization period: 5 minutes after switching on

Operating temperature: -20 °... 60 ° C

Storage temperature: -20 °... 85 ° C

Waterproof: IP64

Dielectric characteristics: 4 kVAC after 1 min. between food and entry

4 kVAC after 1 min. between power supply, RSxxx, analog output

4 kVAC after 1 min. between power supply and relay output

2.5 kVAC after 1 min. between input, RSxxx, analog output

Electrical safety: EN 61010-1, A2

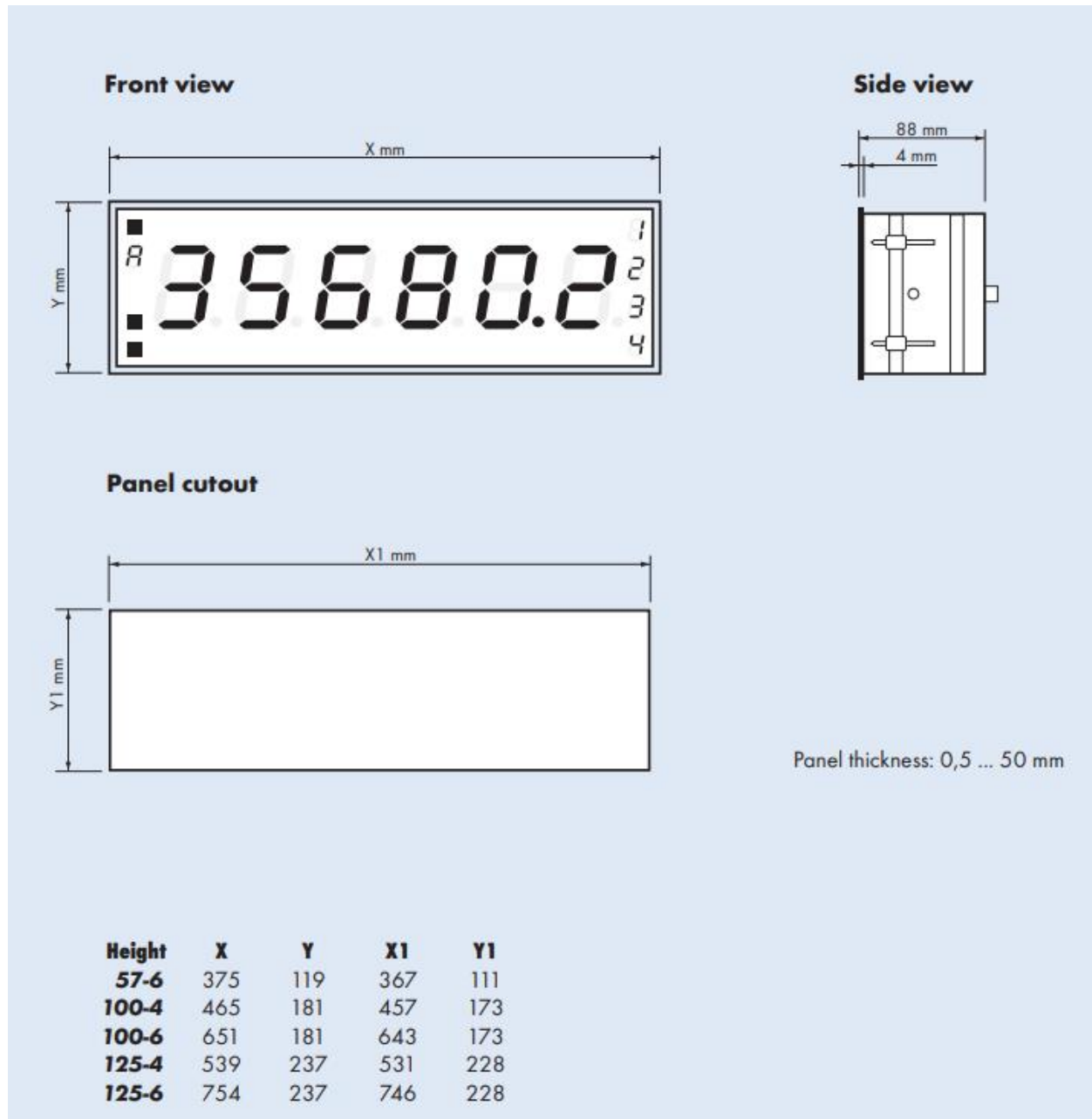
Insulation resistance: for pollution degree II, cat. II.

power supply > 670 V (BI), 300 V (DI)

input, output, Excitation Sensor > 300 V (BI), 150 V (DI)

EMC: EN 61326-1 (Industrial zone)

DIMENSIONS



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