Every part matters

EN

Instruction Manual
RS Pro 35 x 77mm Process Indicator, DC Linear
Stock Number: 124-1073, 124-1074

Read this document carefully before using this device. The guarantee will be expired by device damages if you don't attend to the directions in the user manual. Also we don't accept any compensations for personal injury, material damage or capital disadvantages.

- 35x77mm size
- 4 digits display
- DC Linear input (0-20mA, 4-20mA, 0-1V, 0-10V)
- Display scale can be adjusted between -1999 and 4000
- Decimal point adjustment - zero to three decimal places.
- Process unit can be displayed.
- User calibration
- Selectable sampling time .
- Maximum and minimum measured value stored.
- Maximum or minimum display modes.
- High and low alarm limits.
- CE marked.

Part Code	Supply Voltage	Number Outputs
124-1073	230V ac	1
124-1074	24V ac/dc	1

CE

RoHS Compliant

TECHNICAL SPECIFICATIONS

ENVIRONMENTAL CONDITIONS	
Ambient/storage temperature	0 ... +50°C/-25 ... +70°C (with no icing).
Max. relative humidity	80% Relative humidity for temperatures up to 31°C, decreasing linearly to 50% at 40°C.
Rated pollution degree	According to EN 60529 Front panel : IP65 Rear panel : IP20
Height	Max. 2000m.

Do not use the device in locations subject to corrosive and flammable gases.

ELECTRICAL CHARACTERISTICS	
Supply	230V AC +%10 -%20 or 24V AC/DC ±%10 50/60Hz
Power consumption	Max. 7VA.
Wiring	2.5mm² screw-terminal connections.
Date retention	EEPROM (Min. 10 years).
EMC	EN 61326-1: 2013.
Safety requirements	EN 61010-1: 2010 (Pollution degree 2, overvoltage category II, measurement category I). **1241073 and 1241074 cannot be used if measurement category II, III or IV is required.**

Input type	Measurement range		Measurement accuracy	Input empedance
	Min.	Max.		
0-1V DC voltage	0V	1.1V	±0,5% (of full scale)	Approx. 100kΩ
0-10V DC voltage	0V	12V	±0,5% (of full scale)	Approx. 100kΩ
0-20mA DC current	0mA	25mA	±0,5% (of full scale)	Approx. 10Ω
4-20mA DC current	0mA	25mA	±0,5% (of full scale)	Approx. 10Ω

While the current measuring mode, input impedance becomes 5Ω . Therefore, in current mode, the device must not be connected any voltage input. Otherwise, the device is broken. While the device is running in the voltage measurement mode and if required to change to current measurement mode, then firstly the voltage inputs must be removed and after that, input type must be changed to one of the current measurement modes.

HOUSING	
Housing type	Suitable for flush-panel mounting according to DIN 43 700.
Dimentions	H35xW77xD71mm.
Weight	Approx. 350g (after packaging)
Enclosure material	Self extinguishing plastics.

While cleaning the device, solvents (thinner, gasoline, acid etc.) or corrosive materials must not be used.

FRONT PANEL

mA LED : If input type is selected as 0-20mA or 4-20mA, **mA LED** lights up.

V LED : If input type is selected as 0-1V or 0-10V, **V LED** lights up.

ALR LED : If alarm output is active, **ALR LED** lights up. During delay time, LED flashes.

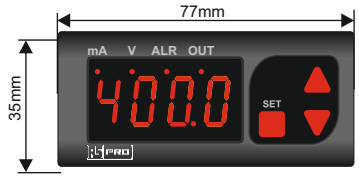
OUT LED : If "OUT" is active, **OUT LED** lights up. During delay time, LED flashes.

SET — In "Running Mode", indicates output set value.
In "Programming Mode", indicates the selected parameter value.

▲ In "Running Mode", indicates the maximum measured value.
Used for incrementing values in "Programming Mode".

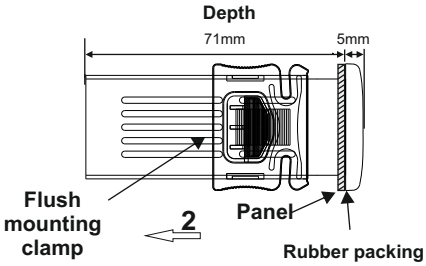
▼ In "Running Mode", indicates the minimum measured value.
Used for decrementing values in "Programming Mode".

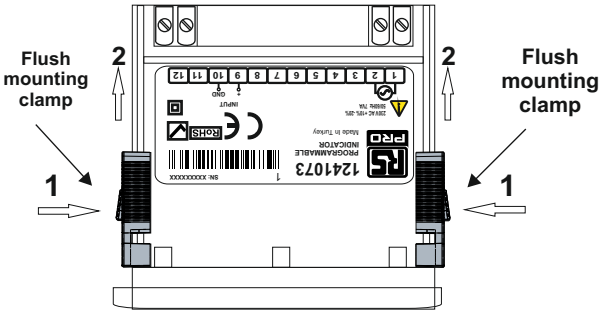
DIMENSIONS

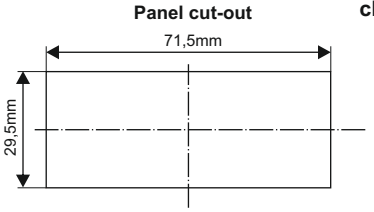


For removing mounting clamps:

- Push the flush-mounting clamp in direction **1** as shown in the figure left.
- Then, pull out the clamp in direction **2**.







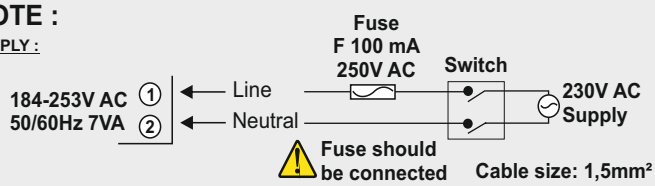
Note :
1) While panel mounting, additional distance required for connection cables should be considered.
2) Panel thickness should be maximum 7mm.
3) If there is no 60mm free space at back side of the device, it would be difficult to remove it from the panel.

CONNECTION DIAGRAM

1241073 & 1241074 is intended for installation in control panels. Make sure that the device is used only for intended purpose. The shielding must be grounded on the instrument side. During an installation, all of the cables that are connected to the device must be free of energy. The device must be protected against inadmissible humidity, vibrations, severe soiling. Make sure that the operation temperature is not exceeded. All input and output lines that are not connected to the supply network must be laid out as shielded and twisted cables. These cables should not be close to the power cables or components. The installation and electrical connections must be carried on by a qualified staff and must be according to the relevant locally applicable regulations.

NOTE :

SUPPLY :



Holding screw
0.4-0.5Nm.

Equipment is protected throughout by DOUBLE INSULATION

Note : **1)** Mains supply cords shall meet the requirements of IEC 60227 or IEC 60245.
2) In accordance with the safety regulations, the power supply switch shall bring the identification of the relevant instrument and it should be easily accessible by the operator.

PROGRAMMING DEVICE

Displaying the Measurement Unit

In “Running Mode”, if SET + ▲ keys are pressed together for 3 seconds, measurement unit appears. See Un it parameter for programming.

Displaying the Minimum Measurement Unit

In “Running Mode”, if ▼ key is pressed for 3 seconds, minimum measurement value appears.

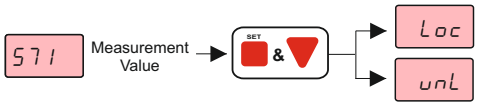
Displaying the Maximum Measurement Unit

In “Running Mode”, if ▲ key is pressed for 3 seconds, maximum measurement value appears.

Resetting Maximum and Minimum Measurement Values

In "Running Mode", if SET key pressed for 2 seconds, maximum and minimum measurement values become equal to the measured value at current time and the rES message appears on display.

Locking and Unlocking



If SET + ▼ keys are pressed together for 2 seconds, Loc message appears and keys are locked. For unlocking, SET + ▼ keys are pressed together for 2 seconds, unL message appears and keys are unlocked. If one of the keys is pressed while the device locked, Loc message appears on display.

Setting Up User Calibration Values

if the standard input values (0-20mA, 4-20mA, 0-1V, 0-10V) will be used, calibration will not be necessary. Except these input values, if different input values to be used CAL.t parameter must be selected as U. inP .

In user menu, if ▲ key is pressed for 7 seconds, L. inP message appears on display and calibration menu is entered.

Voltage or current which are corresponds to LSCL parameter is applied to device input and SET key is pressed. If operation is success, Succ age appears on display and proceeding to the next step.

In this step, while H. inP message displayed, voltage or current which are corresponds to LSCL parameter is applied to device input and SET key is pressed. If operation is success, Succ then C.End message appears on display, calibration process is completed and the device will start running according to the new calibration values.

ERROR MESSAGES & DESCRIPTIONS ⚠

Error conditions and descriptions are listed below.

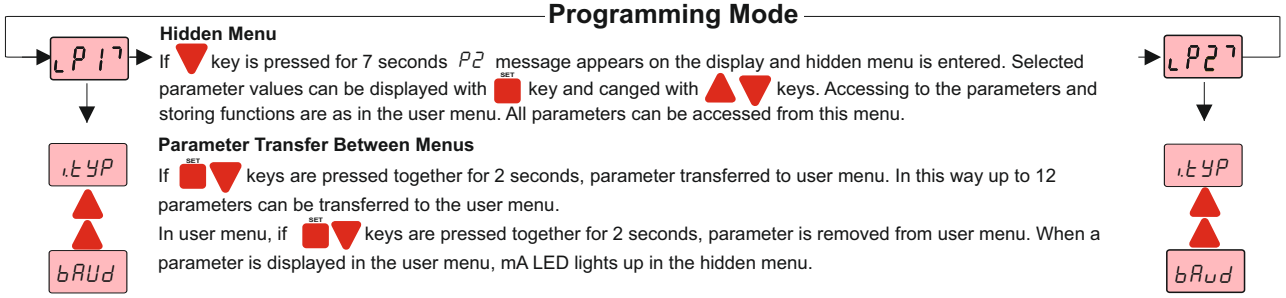
* If voltage or current is difference and lower than half of full scale between H. inP and L. inP voltage or current.
* If excessive high-low input current or voltage is applied.
* If an error occurs during L. inP calibration, Err 1 message appears on display.
* If an error occurs during H. inP calibration, Err2 and C.Err message appears on display.
* If user calibration **is not applied** before and an error occurs during calibration process, device runs according to standard calibration values.
* If user calibration **is applied** before and an error occurs during calibration process, device runs according to previous user calibration values.

Changing Parameters

If ▲ + ▼ keys are pressed together for 2 seconds, P 1 message appears and user menu entered. Then in user menu, first parameter's is displayed.

When a parameter selected, if SET key is pressed selected parameter value appears and displayed parameter can be changed by ▲▼ keys. If no operation is performed for 3 seconds after the parameter value is being displayed or SET key is pressed, parameter name will be shown again. While parameter name displayed, ▲▼ keys are pressed together, returned to "Running Mode" without waiting period.

Programming Mode



Hidden Menu

If ▼ key is pressed for 7 seconds P2 message appears on the display and hidden menu is entered. Selected parameter values can be displayed with SET key and canged with ▲▼ keys. Accessing to the parameters and storing functions are as in the user menu. All parameters can be accessed from this menu.

Parameter Transfer Between Menus

If SET + ▼ keys are pressed together for 2 seconds, parameter transferred to user menu. In this way up to 12 parameters can be transferred to the user menu.

In user menu, if SET + ▼ keys are pressed together for 2 seconds, parameter is removed from user menu. When a parameter is displayed in the user menu, mA LED lights up in the hidden menu.

Setting Up Measurement Unit (Un it) Parameters

If pressed SET key in Un it parameter, related digit blinks on display. For desired number, letter or symbol is adjusted by pressing the ▼ key for related digit. For setting up other digits ▲ key is pressed. When parameter setting process is completed, by pressing SET key or no key is pressed for 3 seconds without pressing any key, parameters can be saved.

Factory Defaults

▼ Key is held down while the device is powered up, dPAr message will see and restore the factory parameters

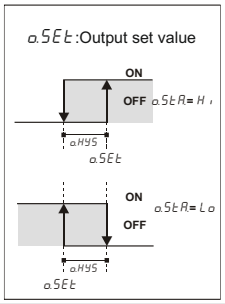
Viewing the Revision

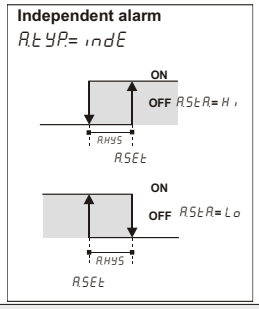
In “Running Mode”, if SET + ▲ + ▼ keys are together pressed for 3 seconds, r.001 revision information appears on display.

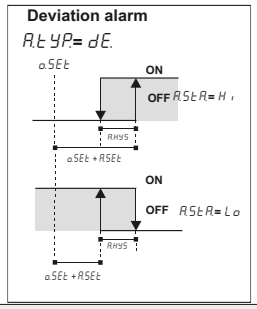
Running Mode Error Messages

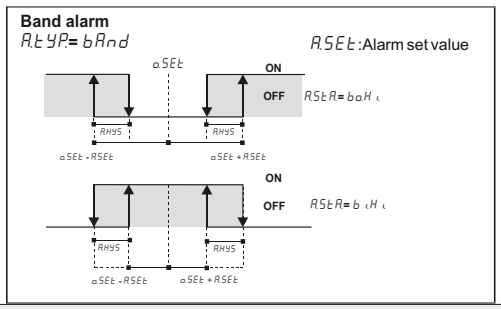
L. inP.	H. inP.	Err. 1	Err.2	C.Err
Input voltage or input current below zero.	Input voltage higher then 15V or input current higher than 25mA.	L. inP calibration error	H. inP calibration error	Calibration failed

OUTPUT CONDITION	ALARM CONDITIONS









PARAMETER LIST

CONFIGURATION PARAMETERS		Initial Value
itYP	Input type selection. (0-20mA, 4-20mA, 0- 1V, 0- 10V)	0- 10
dSP.C	Indicator configuration. (PrcS : Process value, Pr.Un : 4 Seconds process value, 2 Seconds Unit value.)	PrcS
rAtE	Measurement ranges. FASt : Average of 1 measurement value is gathered in 200msec. Slo. 1 : Average of 4 measurement value is gathered in 200msec. Slo2 : Average of 8 measurement value is gathered in 200msec. Slo3 : Average of 16 measurement value is gathered in 200msec.	Slo. 1
HoLd	Indicator holding parameter. (nonE : instant measurement value, Lo. : minimum value, Hi : maximum value is displayed.)	nonE
Unit	Measurement value. (Desired measurement value for unit selection).	nonE
CAL.t	Calibration type. (S. inP : Standard input type, U. inP : User defined input type selection).	S. inP
d.Pnt	Decimal point selection. (Adjustable between the 1th. and 3rd digits).	0
L.SCL	Lower scale value. (Adjustable between -1999 and H.SCL value).	0
H.SCL	Upper scale value. (Adjustable between L.SCL and 4000 value).	2000
OUTPUT CONTROL PARAMETERS		**Initial Value**
o.SEt	Output set value. (Adjustable between L.SCL and H.SCL).	2000
o.HYS	Output hysteresis value. (Adjustable between 1 and 200).	2
o.StA	Output status. (oFF: Output not active, Lo: Becomes active below the setpoint output value, H i:Becomes active above the setpoint output value).	oFF
o.Pon	Required relay-on delay time in order to set output to active state after power-up. (Adjustable between 0 and 99 minutes).	0 1:00
o.ton	Output relay-on delay time. (Adjustable between 0 and 99 minutes).	0 1:00
o.toF	Output relay-off delay time. (Adjustable between 0 and 99 minutes).	0 1:00
ALARM CONTROL PARAMETERS		**Initial Value**
A.SEt	Alarm set value. (Adjustable between L.SCL and H.SCL).	2000
A.HYS	Alarm hysteresis value. (Adjustable between 1 and 200).	2
A.tYP	Alarm type. (indE : Independent alarm, dE: Deviation alarm, bAnd: Band alarm)	indE
A.StA	Alarm condition. (oFF:Alarm not active. For independent or deviation alarm, Lo: Alarm is active below the set value, H i: Alarm is active above the set value. For band alarm, b iH i : Activated in "in-band", boH i : Activated in "out-band".)	oFF
A.Pon	Required relay-on delay time in order to set alarm output to active state after power-up. (Adjustable between 0 and 99 minutes).	0 1:00
A.ton	Alarm output relay-on delay time. (Adjustable between 0 and 99 minutes).	0 1:00
A.toF	Alarm output relay-off delay time. (Adjustable between 0 and 99 minutes).	0 1:00
RS485 MODBUS COMMUNICATION PARAMETERS		**Initial Value**
AdrS	Slave device address. (Adjustable between 1 and 247)	1
bAUd	Baudrate. (oFF, 1200, 2400, 4800, 9600, 19200 kbps)	9600