

Instruction Manual
RS Pro 35 x 77mm ON/OFF/PID Temperature Controller, 2 outputs
Stock Number: 124-1058, 124-1059, 124-1060



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.
- Heating or cooling applications
- Thermocouple or PT100 inputs
- Two outputs for control and alarms
- ON/OFF or PID control
- On sensor failure, manual control can be selected.
- Sensor input offset setting
- Two setpoint - selectable from front panel.
- Selectable thermocouple types or PT100 input. (Specify at order).
- PID Autotune
- Soft-Start feature.
- Two outputs - Relay (control or alarm) and SSR (control)
- CE marked



RoHS
Compliant



Part Code	Supply Voltage	Number Outputs
124-1058	230V ac	1 x relay, 1 x SSR
124-1059	230V ac	1 x relay, 1 x SSR
124-1060	24V ac	1 x relay, 1 x SSR

TECHNICAL SPECIFICATIONS

Input type	Temperature range		Accuracy
	°C	°F	
PT100 Resistance thermometer EN 60751	-99.9...300.0 °C	-99.9...543.0 °F	± 0,5% (of full scale) ± 1 digit
PT100 Resistance thermometer EN 60751	-200...600 °C	-328...1112 °F	± 0,5% (of full scale) ± 1 digit
J (Fe-CuNi) Thermocouple EN 60584	0... 600°C	+32... +1112°F	± 0,5% (of full scale) ± 1 digit
K (NiCr-Ni) Thermocouple EN 60584	0...1300°C	+32... +2372°F	± 0,5% (of full scale) ± 1 digit
T (Cu-CuNi) Thermocouple EN 60584	0... 400°C	+32... +752°F	± 0,5% (of full scale) ± 1 digit
S (Pt10Rh-Pt) Thermocouple EN 60584	0...1700°C	+32... +3092°F	± 0,5% (of full scale) ± 1 digit
R (Pt13Rh-Pt) Thermocouple EN 60584	0...1700°C	+32... +3092°F	± 0,5% (of full scale) ± 1 digit

ENVIRONMENTAL CONDITIONS

Ambient/storage temperature	0 ... +50°C/-25... +70°C (with no icing)	
Max. Relative humidity	Relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity 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, 50/60Hz or 24V AC ±%10, 50/60Hz
Power consumption	Max. 5VA
Wiring	Power connector: 2.5mm ² screw-terminal, Signal connector: 1,5mm ² screw-terminal connection.
Line resistance	Max. 100ohm
Data retention	EEPROM (minimum 10 years)
EMC	EN 61326-1: 2013
Safety requirements	EN 61010-1: 2010 (Pollution degree 2, overvoltage category II)

OUTPUTS

C/A2 output	Relay : 250V AC, 8A (for resistive load), Selectable as NO+NC Control or Alarm2 output.
SSR output	Max 20mA 12Volt (as control output)
Life expectancy for relay	Mechanical 30.000.000; Electrical 100.000 operation. 250V AC, 8A

CONTROL

Control type	Single set-point and alarm control
Control algorithm	On-Off / P, PI, PD, PID (selectable)
A/D converter	12 bit
Sampling time	100ms
Proportional band	Adjustable between 0% and 100%. If Pb=0%, On-Off control is selected.
Control period	Adjustable between 1 and 250 seconds
Hysteresis	Adjustable between 1 and 50°C/F
Output power	The ratio of power at a set point can be adjusted between 0% and 100%

HOUSING

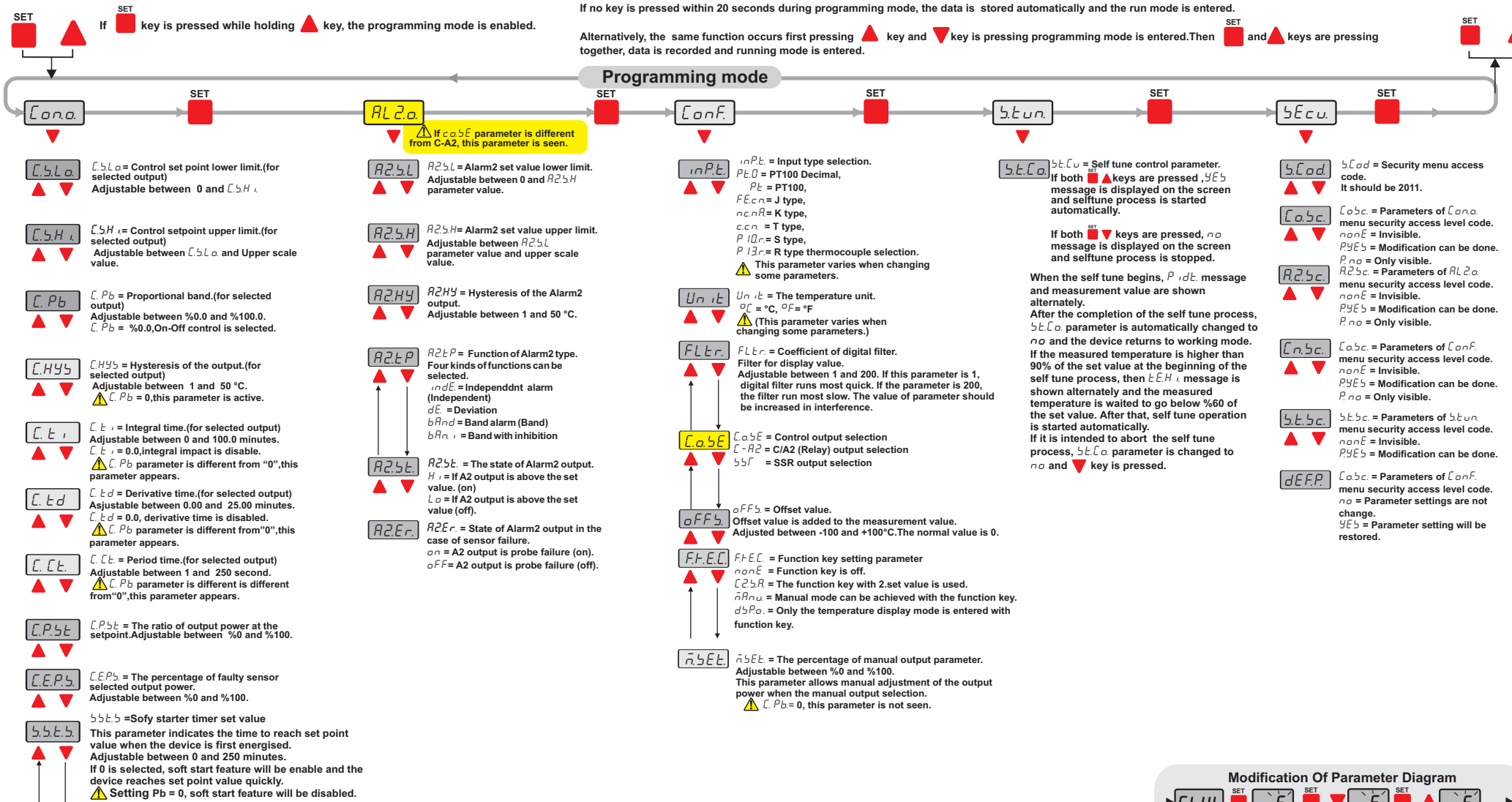
Housing type	Suitable for flush-panel mounting according to DIN 43 700.
Dimensions	H35xW77xD71mm
Weight	Approx. 200g (after packing)
Enclosure material	Self extinguishing plastics.



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

Entering from the programming mode to the run mode:
If no key is pressed within 20 seconds during programming mode, the data is stored automatically and the run mode is entered.

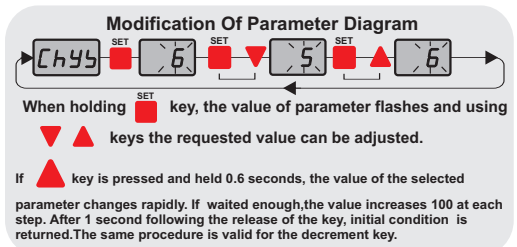
Alternatively, the same function occurs first pressing **▲** key and **▼** key is pressing programming mode is entered. Then **SET** and **▲** keys are pressing together, data is recorded and running mode is entered.



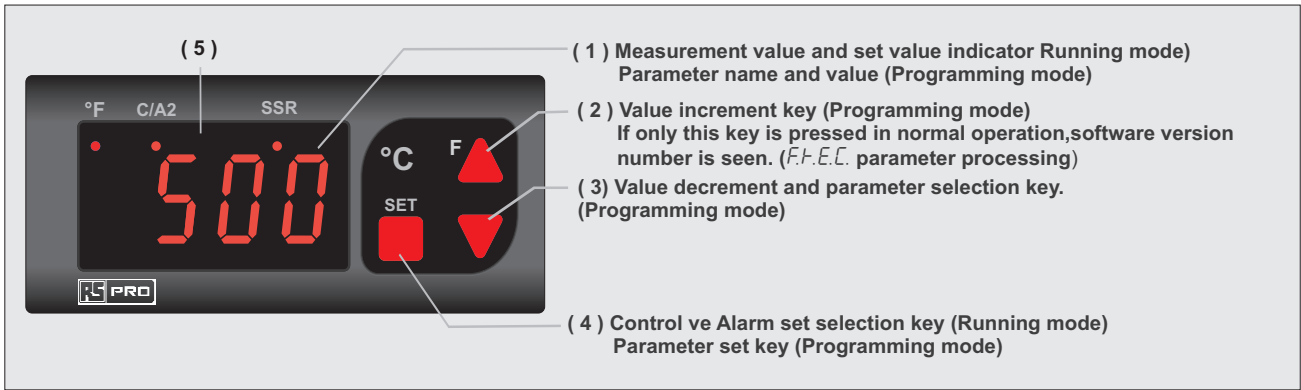
While the parameter names appear, if **▲** and **▼** keys are pressed together, returns to the program mode.

DEFAULT PARAMETERS

Set parameters		Control output parameters		Alarm2 output parameters		Configuration parameters			Self tune parameters		Security parameters	
		TC input	PT100 input	TC input	PT100 input	TC input	PT100 input		TC input	PT100 input	TC input	PT100 input
C15E	400	C5Lo	0	A25L	0	inPt	FEcn	Pt	A2Er	no	Cobc	P4E5
C25E	400	C5Hi	600	A25H	600	UnIt	FLtr	oC			A25c	P4E5
A25E	500	CPb	0	A2HY	2	FLtr	CobE	C-A2			Cn5c	P4E5
		CHY5	2	A2tP	IndE	CobE	oFF5	0			S55c	P4E5
		CtI	4.0	A25t	H	oFF5	FLtr	nonE			dEFP	no
		Ctd	1.00	A2Er	on	FLtr	n5Et	50				
		CtE	20									
		CP5t	0									
		CEP5	0									
		S555	0									
		CTYP	HEAt									

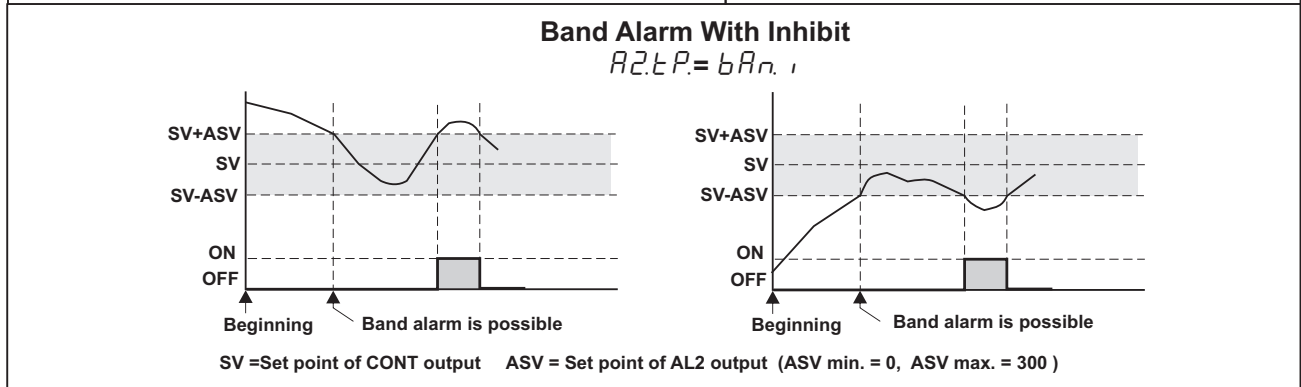
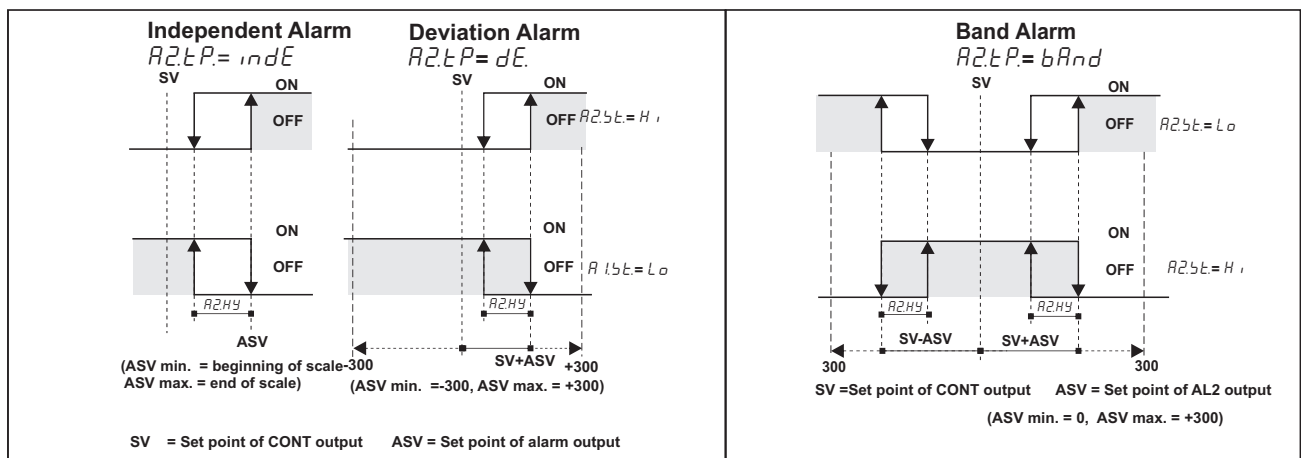


TERMS

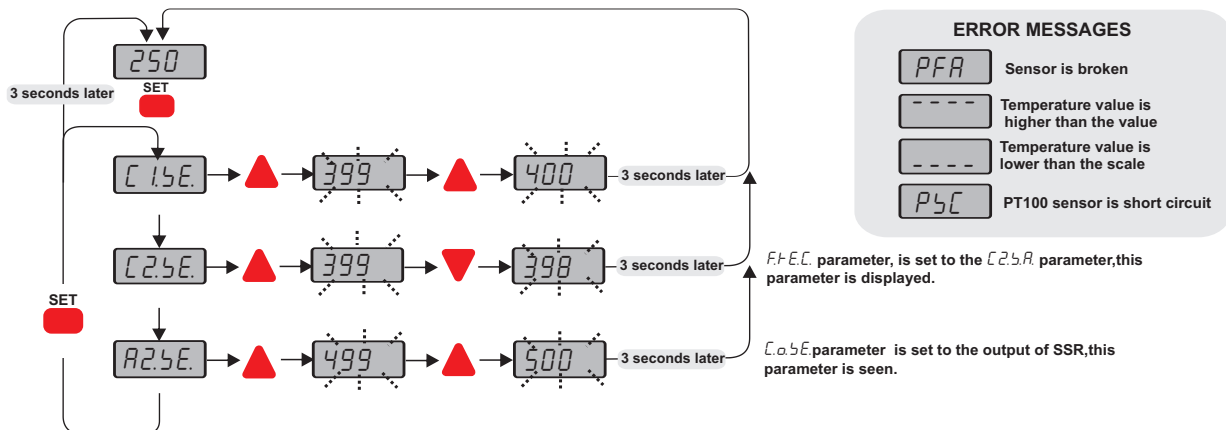


(1) PV and SV display	7 segment, 4 digits red LED display
Character heights	12 mm
(2),(3),(4) Keypad	Micro switch
(5) State indicator	For control, Alarm1 and SSR outputs 3 digits red LED

ALARM2 OUTPUT TYPES



MODIFICATION OF CONTROL AND ALARM SET POINTS



ERROR MESSAGES

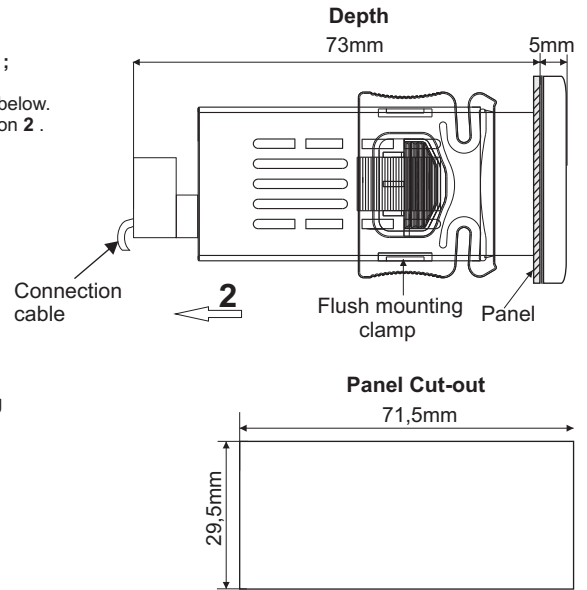
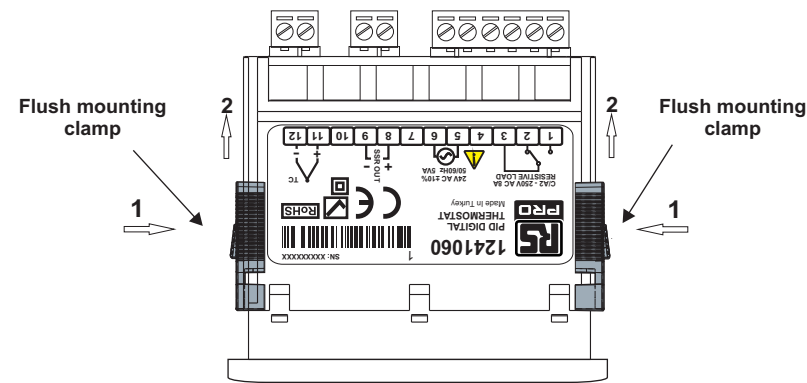
- PFR Sensor is broken
- Temperature value is higher than the value
- Temperature value is lower than the scale
- P5C PT100 sensor is short circuit

DIMENSIONS



For removing mounting clamps ;

- Push flush mounting clamps in direction 1 as shown in the figure below.
- Then pull out the clamps in direction 2 .



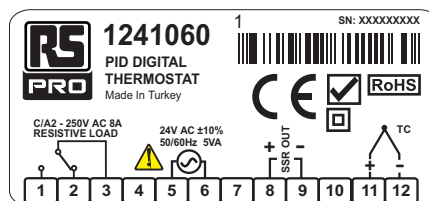
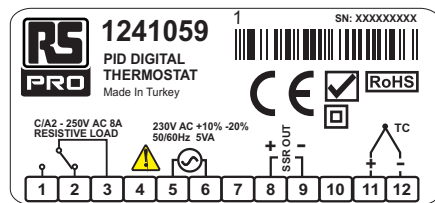
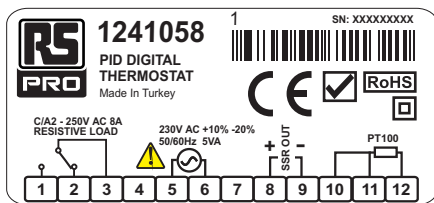
Note :

- 1) Panel thickness should be maximum 7mm.
- 2) 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



1241058, 1241059 and 1241060 is intended for installation within 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 electrical power. 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 out by a qualified staff and must be according to the relevant locally applicable regulations.

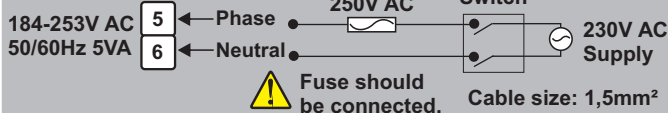


Holding screw
0.4-0.5Nm

Equipment is protected throughout
by DOUBLE INSULATION.

NOTE :

SUPPLY:



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.