Wide range power supply

A 1479

Instruction manual

Version 1.2.2, Code No. 20 752 653

METREL®

Distributor:

Manufacturer:

METREL d.o.o.
Ljubljanska cesta 77
1354 Horjul
Slovenia

web site: https://www.metrel.si
e-mail: metrel@metrel.si

CE Mark on your equipment certifies that this equipment meets the requirements of the EU (European Union) concerning safety and interference causing equipment regulations

1 Introduction

A 1479 Wide range power supply provides power supply for Metrel instruments directly from the distribution transformer or other nonconventional power source. It provides stabile power source (12 Vdc, 1 A) and safe installation to the user (CAT IV / 600V, IP 54).

1.1 Main Features

- Wide input supply range 85 V … 690 V (at 45 Hz … 65 Hz)
- Wide temperature range: -20 °C … +60 °C
- Overvoltage category: CAT IV / 600V (altitude up to 3000 m)
- Operating status indicator

1.2 Safety considerations

To ensure operator safety while using the A 1479 Wide range power supply and to minimize the risk of damage to the supply, please note the following general warnings:

⚠ **The power supply has been designed to ensure maximum operator safety. Usage in a way other than specified in this manual may increase the risk of harm to the operator!**

⚠ **Do not use the power supply and/or accessories if any visible damage is noticed!**

⚠ **The power supply contains no user serviceable parts. Only an authorized dealer can carry out service or adjustment!**

⚠ **All normal safety precautions have to be taken in order to avoid risk of electric shock when working on electrical installations!**

⚠ **Only use approved accessories which are available from your distributor!**

⚠ **Maximum nominal voltage (L-N or L-L) on input terminals is 690 V_{RMS}.**

1.3 Applicable standards

Wide range power supply A 1479 is designed and tested in accordance with the following standards:

Electromagnetic compatibility(EMC)	
EN 61326-2-2: 2013	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 2-2: Particular requirements - Test configurations, operational conditions and performance criteria for portable test, measuring and monitoring equipment used in low-voltage distribution systems • Emission: Class A equipment (for

	industrial purposes) • Immunity for equipment intended for use in industrial locations
Safety (LVD) EN 61010-1: 2010	Safety requirements for electrical equipment for measurement, control and laboratory use – Part 1: General requirements
EN 61010-031: 2002 + A1: 2008	Safety requirements for electrical equipment for measurement, control and laboratory use – Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test

Note about EN and IEC standards:

Text of this manual contains references to European standards. All standards of EN 6XXXX (e.g. EN 61010) series are equivalent to IEC standards with the same number (e.g. IEC 61010) and differ only in amended parts required by European harmonization procedure.

2 Connection and operation

2.1 General guidelines and usage

A 1479 Wide range power supply provide power supply to various instruments from non-standard power sources. Moreover it is designed to connect directly to the measurand or measurement input terminals of instrument as shown on figure below. Backside of power supply is equipped with magnet for attaching device to the metallic enclosure.

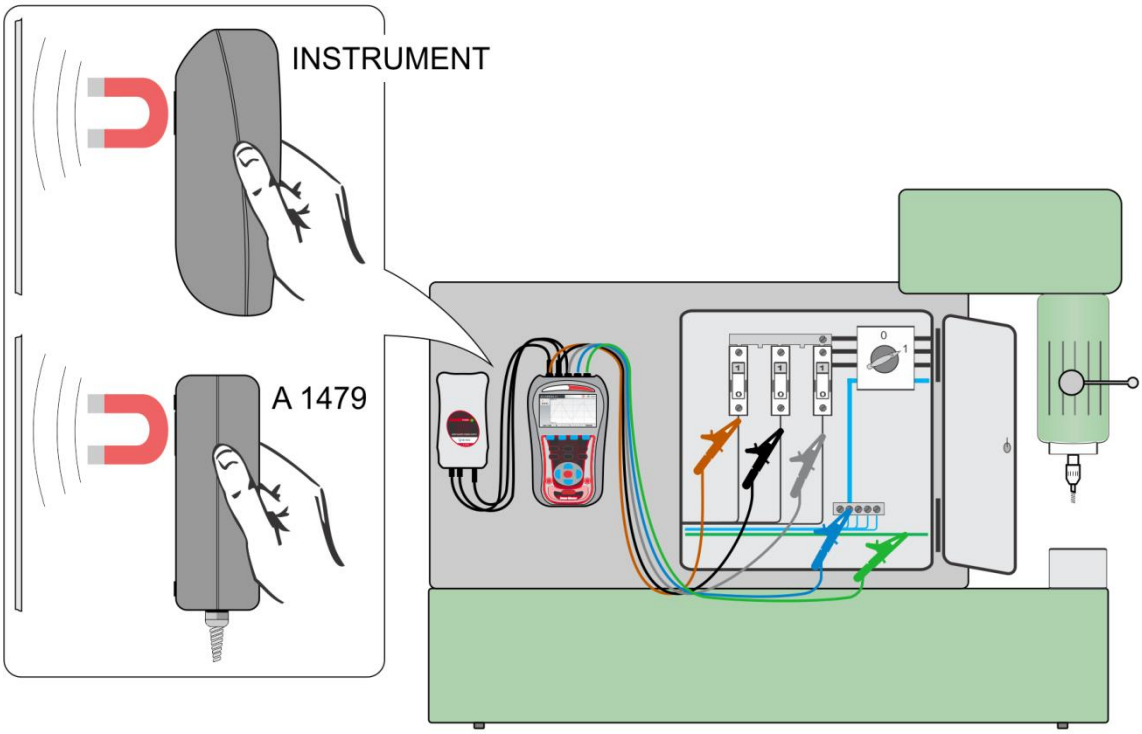

Figure 2.1: Wide range power supply usage and basic connection

2.2 Connection between Line to Neutral conductors

Typically, Wide range power supply is connected between line and neutral wire, as shown on *Figure 2.2*.

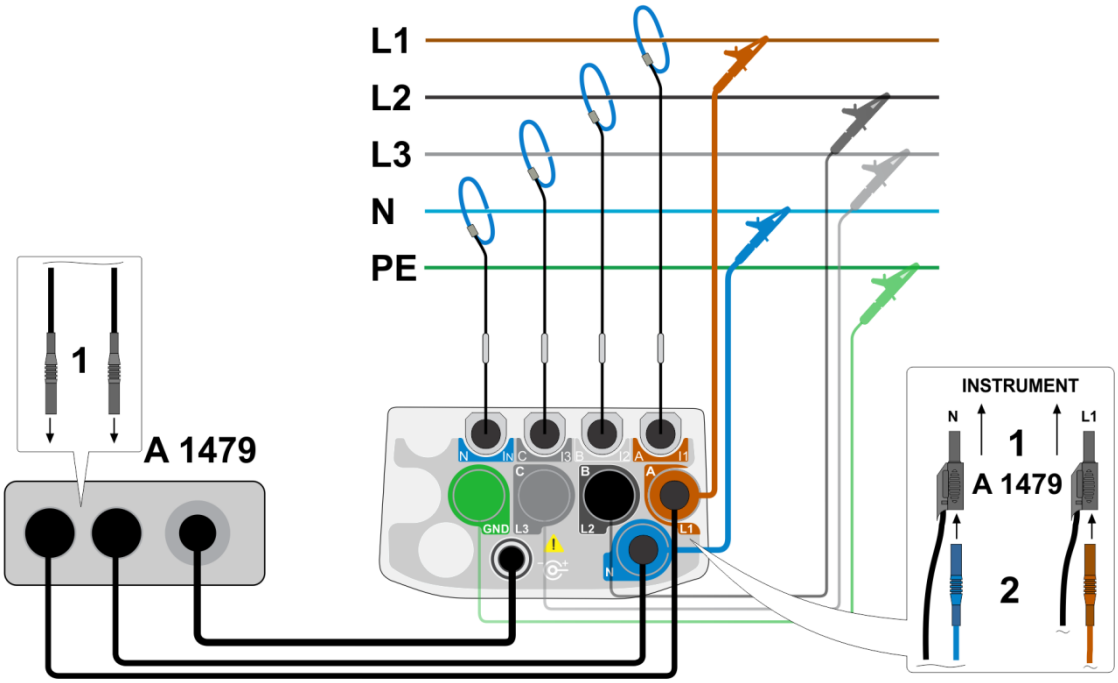

Figure 2.2: L-N Connection

2.3 Connection between Line to Line conductors

Alternatively, Wide range power supply can be connected between line wires, as shown on *Figure 2.3*. Line to line voltage must be lower than maximal nominal input voltage of power supply.

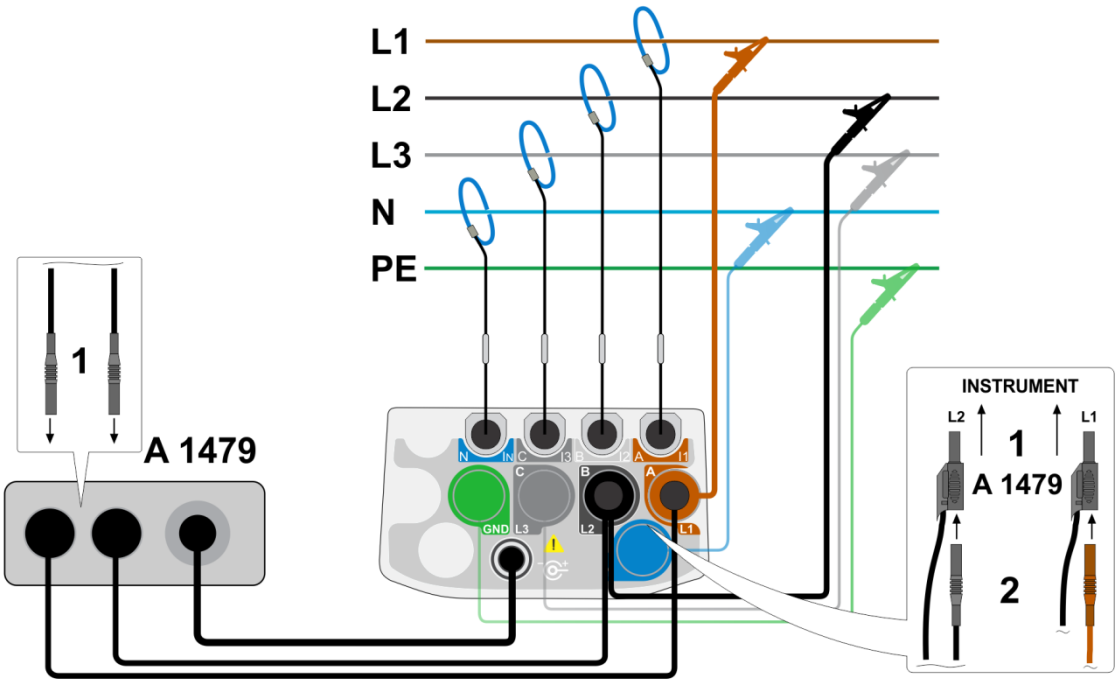

Figure 2.3: L-L Connection

2.4 Standard socket connection

Power supply standard set include Plug adapter for connection to the standard socket, as shown on *Figure 2.4*.

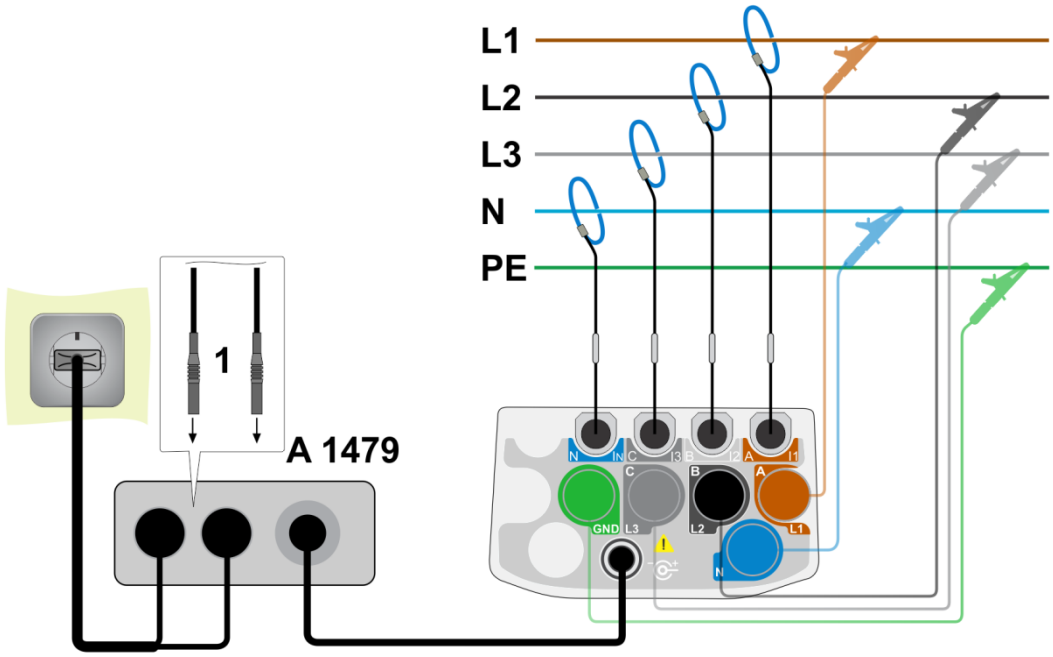

Figure 2.4: Socket Connection

2.5 Busbar connection

Power supply standard set include crocodiles clips for connection directly to the busbars, as shown on *Figure 2.5*.

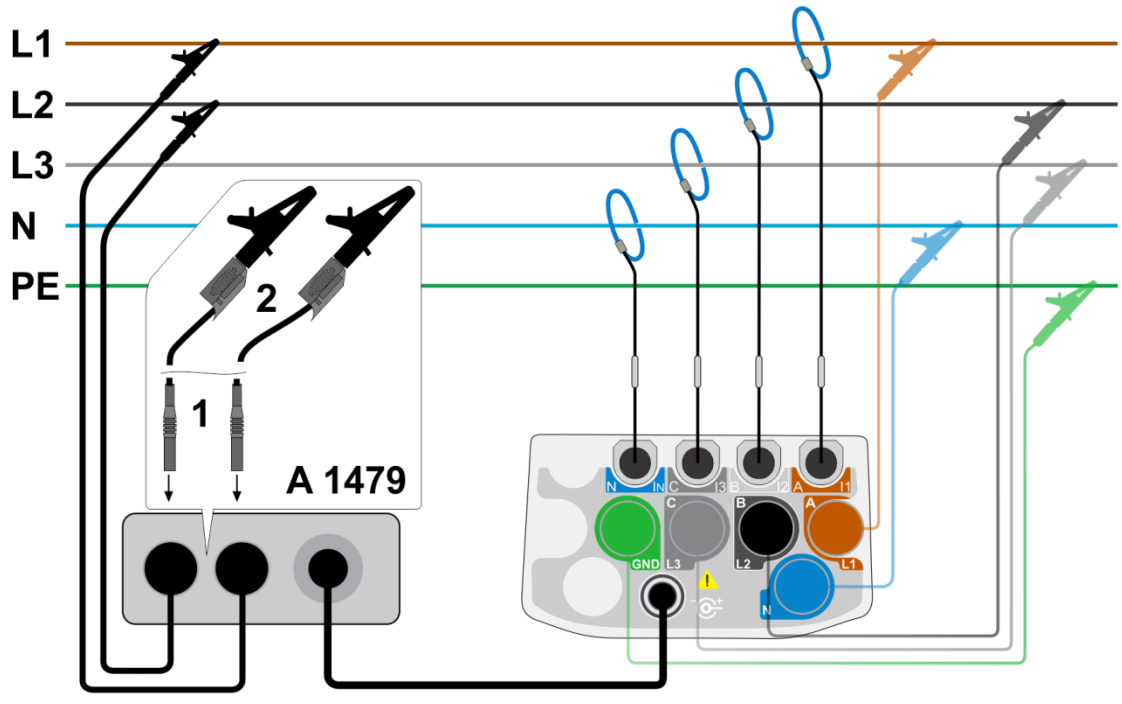

Figure 2.5: Busbar Connection

2.6 Terminals and status indicator

Warnings!

⚠ Use original Input connection leads or plug adapter only!

⚠ Max. permissible voltage on input terminals is 690 V_{RMS} !

Figure 2.6: Terminals and indicators

Legend:

No.	Description
1	Input terminals
2	12 V_{DC} / 1 A output terminal
3	Status indicator: a) Light on — Power supply is working properly b) Light off — Power supply is not working c) Blinking light — Overcurrent protection is activated

2.7 Strap installation

Carrying strap is provided as standard accessory. In order to use, strap should be attached to the housing as shown on *Figure 2.7*.

Figure 2.7: Strap installation

Installation procedure:

Step	Description
1	Remove bolts and cover.
2	Align strap holes with screw holes.
3	Screw cover back

2.8 Accessories

2.8.1 Standard accessories

Table 2.1: Wide range power supply standard accessories

Description	Pieces
Input Connection leads	2
Plug adapter	1
Carrying strap	1

2.8.2 Optional accessories

See the attached sheet for a list of optional accessories that are available on request from your distributor.

3 Technical specifications

3.1 General specifications

Working temperature range:	-20 °C … +60 °C
Storage temperature range:	-20 °C … +70 °C
Max. humidity:	95 % RH (0 °C … 40 °C), non-condensing
Pollution degree:	2
Protection classification:	Reinforced insulation
Overvoltage category:	CAT IV / 600 V
Altitude:	up to 3000 meters above sea level
Protection degree:	IP 54
Dimensions (w×h×d):	103 mm × 51 mm × 199 mm
Weight:	0.6 kg
AC Input voltage range:	85 V … 690 V rms
AC Input voltage frequency range	45 Hz … 65 Hz
DC Input voltage range	90 V … 690 V
Maximal input power	40 VA
Output voltage	12 V_{DC} ± 10 %
Maximal output current	1 A

4 Maintenance

4.1 Cleaning

To clean the surface of the power supply use a soft cloth slightly moistened with soapy water or alcohol. Then leave the power supply to dry totally before use.

⚠ **Warnings:**

- **Do not clean the power supply while in use!**
- **Do not use liquids based on petrol or hydrocarbons!**
- **Do not spill cleaning liquid over the power supply!**

4.2 Service

For repairs under or out of warranty please contact your distributor for further information.

4.3 Troubleshooting

No.	Fault	Possible cause	Solution
1	Wide range power supply is connected to the mains, but 12 V output voltage is not present. Power indicator (Green LED) is off.	No mains voltage.	Check installation.
		No mains voltage.	Check input connection leads. Replace it if damaged.
		Faulty internal fuse.	Please contact your distributor or manufacturer.
2	Wide range power supply is connected to the mains, but 12 V output voltage is not present. Power indicator (Green LED) is on, indicating proper operability of adapter.	Output lead or terminal is broken.	Please contact your distributor or manufacturer.
3	Wide range power supply is connected to the mains, but 12 V output voltage is not present. Power indicator (Green LED) is periodically blinking on/off.	Overcurrent protection is activated.	Disconnect attached instrument and verify if fault on power supply is still present. If not, inspect the instrument for fault.
		Overcurrent protection is activated. Output lead or terminal is shorted.	Please contact your distributor or manufacturer.

4.4 Manufacturer address:

METREL d.o.o.
Ljubljanska 77,
SI-1354 Horjul,
Slovenia

Tel: +(386) 1 75 58 200
Fax: +(386) 1 75 49 095
Email: metrel@metrel.si
http://www.metrel.si