

**TF-CONV****TF-LP-I / TF-LP-V / TF-LP-IV**

CURRENT AND VOLTAGE TRANSDUCER AND RECEIVER

T.EL.FER. s.r.l. - Head office: via Soprasasso 8/2 – 38121 Trento (TN) Registered office : via Marconi 66/B – 15060 Basaluzzo (AL)

VAT registration of ALESSANDRIA n. 02275860068 – REA Number: AL – 241383 Corporate capital € 60.641,00 i.v.

telfer@pec.it info@telfer.it www.telfer.it Tel. (+39) 0461 1590084 Fax (+39) 0461 1590105

THE QUALITY SYSTEM OF T.EL.FER. SRL HAS BEEN FOUND TO COMPLY WITH THE REQUIREMENTS OF UNI EN ISO 9001:2008
CERTIFICATE NUMBER 50 100 11979

DOC: CO0515 /TF_LP_CONV-EDS / 001	ISSUED BY: AQ	REV: 0	DATE: 13/05/2015
--	----------------------	---------------	-------------------------

T.EL.FER. CAN VARY THE PRODUCTS SPECIFICATIONS IN ANY MOMENT WITHOUT NOTICE

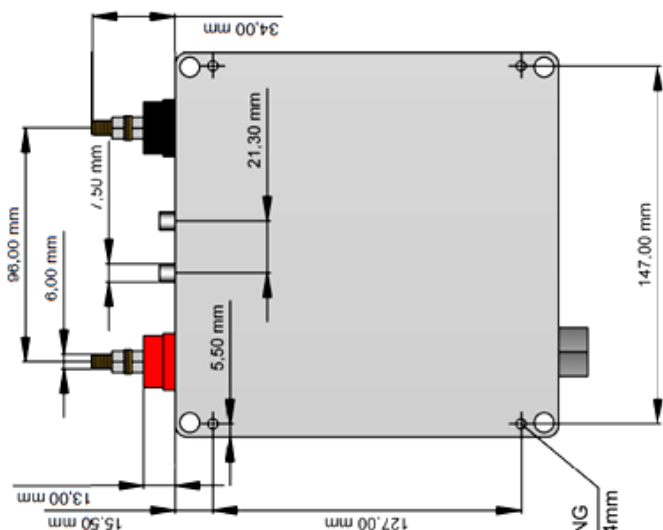
The transducers of the TF-LP family and the receivers of the TF-CONV family are designed to operate together in order to achieve a compact, affordable and economic measurement system. They can measure both current and voltage on 1500V lines (-15) or 3000V lines (-40). Both devices are easily configurable on site. The big range of power supply (85...250Vdc) makes them easy to install and operate. The high precision, resolution and speed allows precise measurement of the line parameters. The choice between terminated and unterminated optical fiber allows flexibility in deciding between economy, distance and easy installation.

At the end of this data sheet are reported some installation examples.

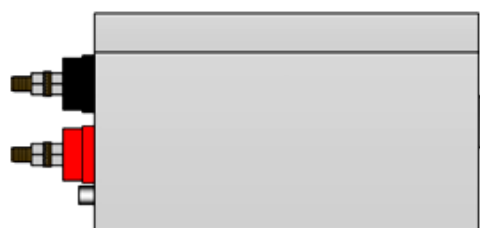
CURRENT AND VOLTAGE TRANSDUCER	
TF-LP-I TF-LP-V TF-LP-IV	GENERAL CHARACTERISTICS • Current(-I), Voltage (-V) and Current+Voltage (-IV) transducer • Optical fiber communication (double fiber for TF-LP-IV) • 1000μ unterminated plastic optical fiber measure port (option -ST for ST terminated optical fiber) • 8.1 kHz sampling rate 13 bits A/D • Current Range : 60mV - 80 mV shunt (shunt type and full scale on site programmable with rotary switch) • Voltage Range : -4000 . . + 4000 V (-15 option) • Voltage Range : -8000 . . + 8000 V (-40 option) • 12 kV insulation (-15 option) or 20 kV Insulation (-40 option) between terminals ad power supply • Power supply: 85÷250 V_{DC} • Power consumption: < 4 VA
	MECHANICAL • IP63 ABS case • Power connector type: 2 x Phoenix VDFK 4 1P • Size: 204mm x 160mm x 90mm (H x L x D)

	CURRENT OR VOLTAGE RECEIVER - CURRENT AND VOLTAGE RECEIVER
TF-CONV TF-CONV-ST TF-CONV-D TF-CONV-D-ST	GENERAL CHARACTERISTICS • On site programmable type of measure (current / voltage) • Measures at the same time current and voltage • 6 digit high brightness display • Optical fiber receiver • Single optical fiber receiver • Minimum voltage/current output with programmable threshold • Minimum voltage output with programmable threshold • Maximum voltage/current output with programmable threshold • Maximum current output with programmable threshold • Watchdog output • Fully programmable on site • Power supply: 85÷250 V_{DC} • Power consumption: < 6 VA • 1000μ unterminated plastic optical fiber measure port (option -ST for ST terminated optical fiber) ANALOG OUTPUTS • Triple individually programmable current loop outputs (-20..+20mA, -20..-4 +4..+20mA, -12..+20mA, +4..+20mA) • Triple individually programmable current loop outputs (-20..+20mA, -20..-4 +4..+20 mA, -12..+20 mA, +4..+20 mA) two for current measures and one for voltage measure • Individually programmable gain for current loop outputs (1n, 2In, 4In, 10In) • Outputs resolution: 16bit - 0,1% F.S. • Time resolution: 125μs • Maximum allowable impedance: 230Ω @ 20mA DIGITAL OUTPUTS • Two relays for minimum and maximum threshold with programmable N.O. / N.C. functionality • one relay for minimum voltage threshold with programmable N.O. / N.C. functionality • one relay for maximum current threshold with programmable N.O. / N.C. functionality • One relay for watchdog • Contact characteristics: ○ Max switching current (resistive): 8A ○ Electrical expected life (min. operations, 5A, 30V_{DC} resistive): 2 × 10⁵ • Response delay: <1s (threshold), <3s (watchdog) FRONT PANEL • 6 digit LED display • 6 digit LED display alternating current and voltage values • 4 keys keyboard (+) (-) (set) (enter) • Value refresh time: ≤ 1s • Maximum displayable value: ± 9000V; ±80000A • Maximum displayable value: ± 9000V; -9999...+80000A MECHANICAL • PVC case • Required power connector: type MSTB 2.5/2 –ST pitch 5.08mm • Required digital output connector: type MSTB 2.5/9 –ST pitch 5.08mm • Required analog output connector: type MSTB 2.5/6 –ST pitch 5.08mm • Size: 96,2mm x 96,7mm x 108.5mm (H x L x D) ENVIRONMENTAL • Operating temperature: -20°C ... +70°C • Storage temperature: -20°C ... +85°C

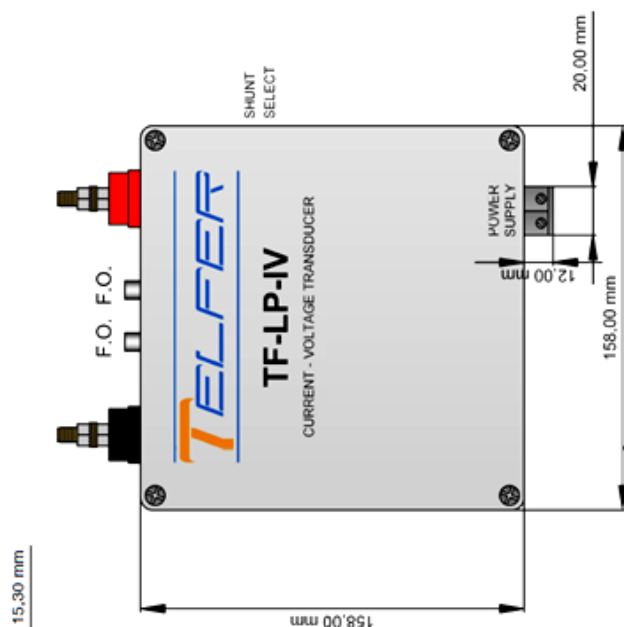
BACK VIEW



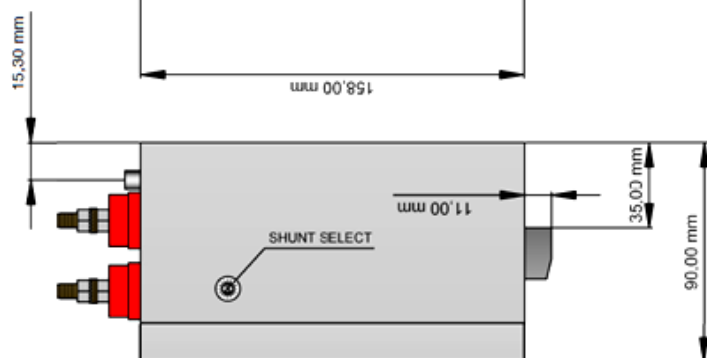
LEFT VIEW



FRONT VIEW



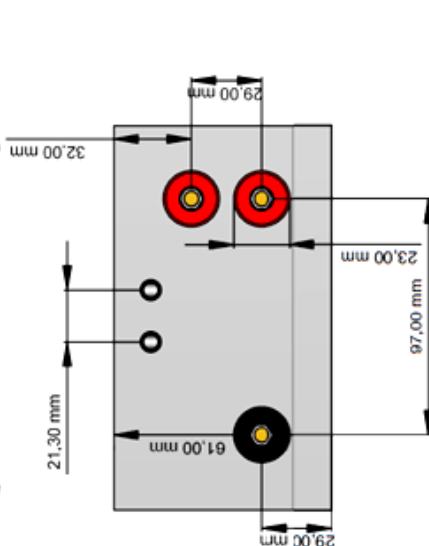
RIGHT VIEW



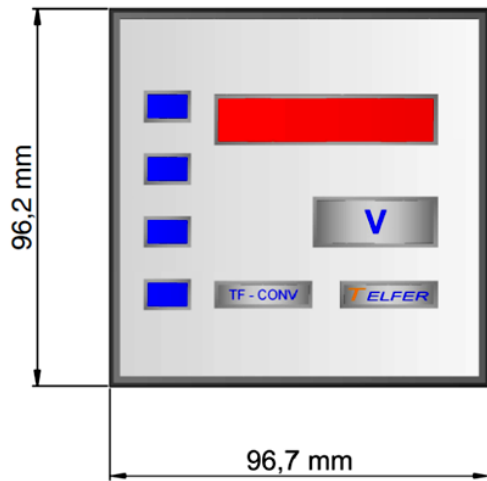
TF-LP-IV SIZE

(TF-LP-I AND TF-LP-V HAVE THE SAME SIZE, BUT HAVE ONLY TWO MEASUREMENT TERMINALS AND ONLY ONE OPTICAL FIBER TRANSMITTER)

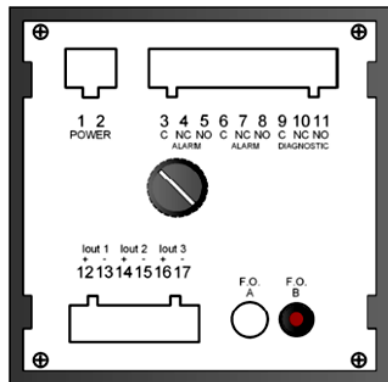
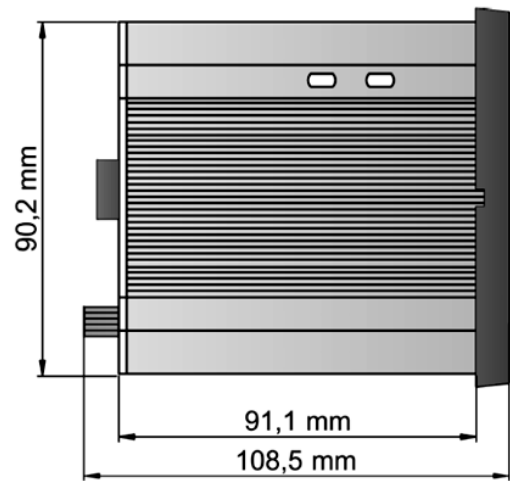
TOP VIEW



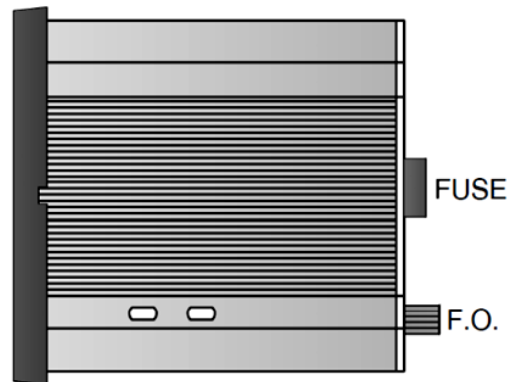
FRONT VIEW



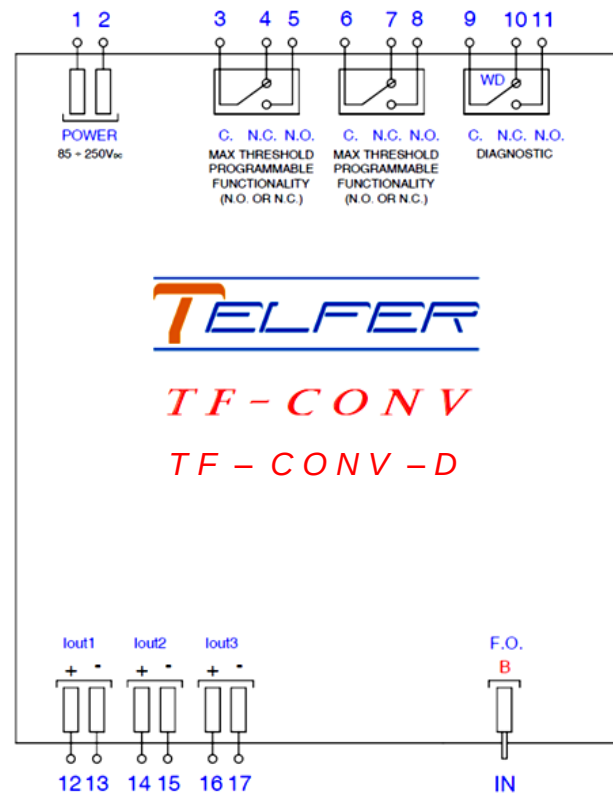
LEFT VIEW



BACK VIEW



RIGHT VIEW

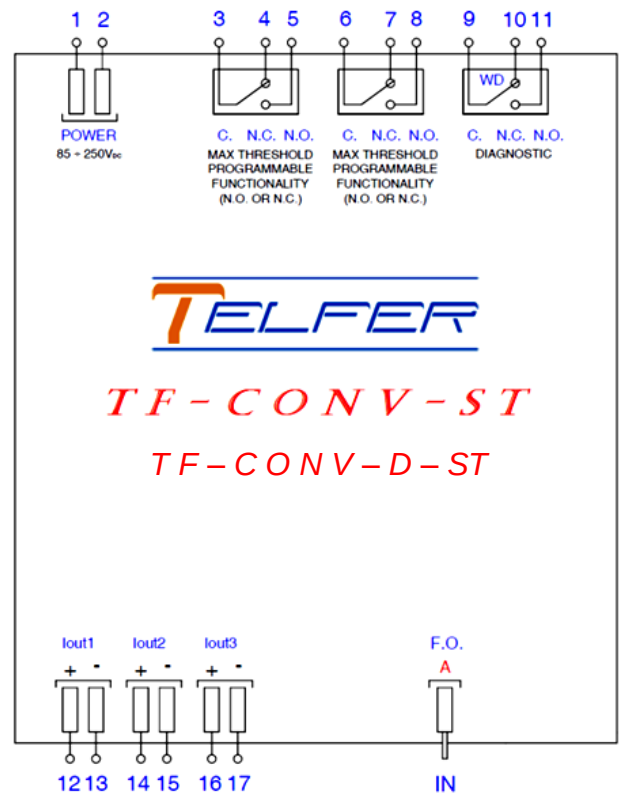


ALL CHANNELS ARE INDIVIDUALLY PROGRAMMABLE:

- 20....+20mA
- 20....-4 & +4....+20mA
- 12....+20mA

WITH DYNAMIC:

- In, 2In, 4In, 10In



ALL CHANNELS ARE INDIVIDUALLY PROGRAMMABLE:

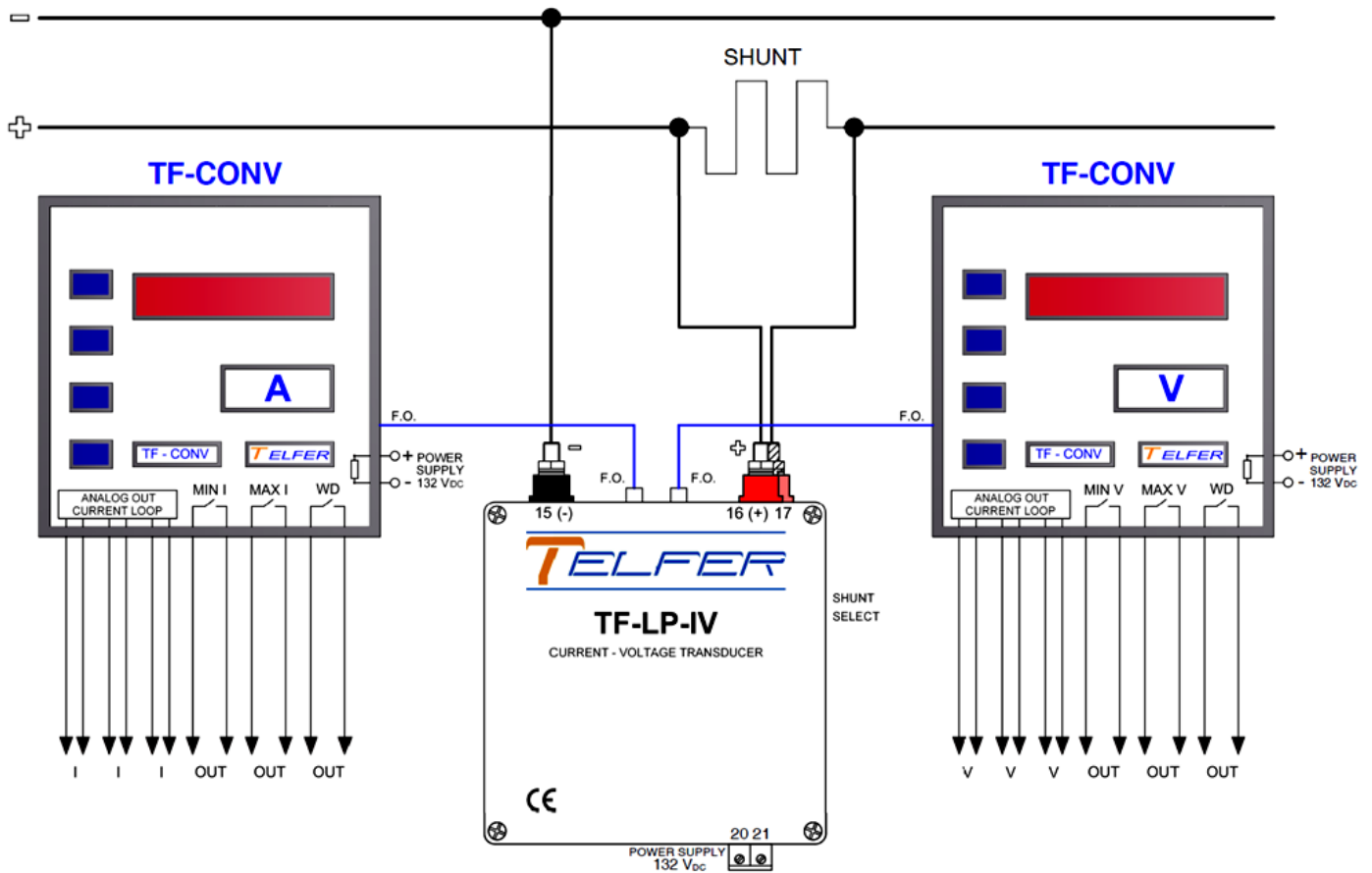
- 20....+20mA
- 20....-4 & +4....+20mA
- 12....+20mA

WITH DYNAMIC:

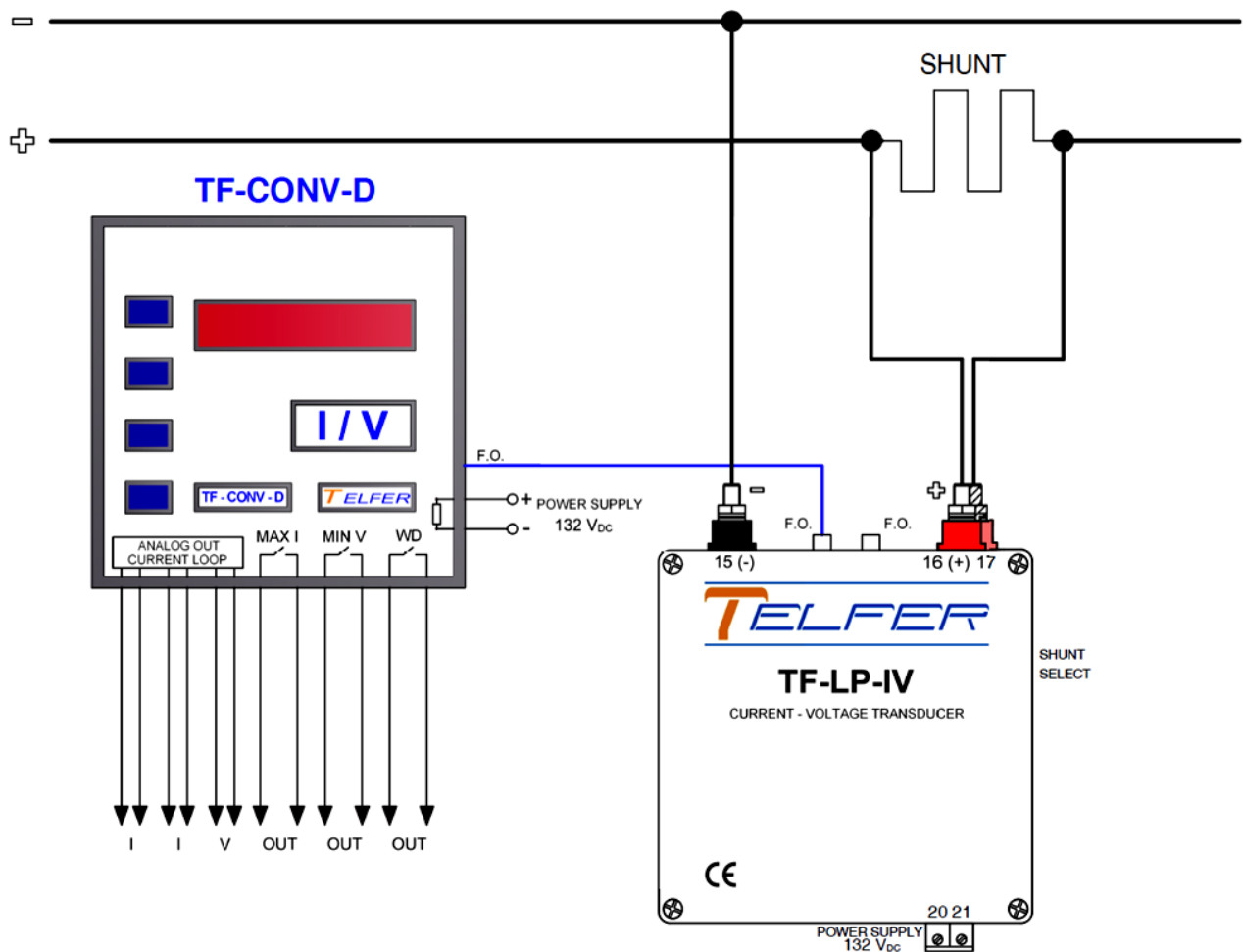
- In, 2In, 4In, 10In

TYPE ST

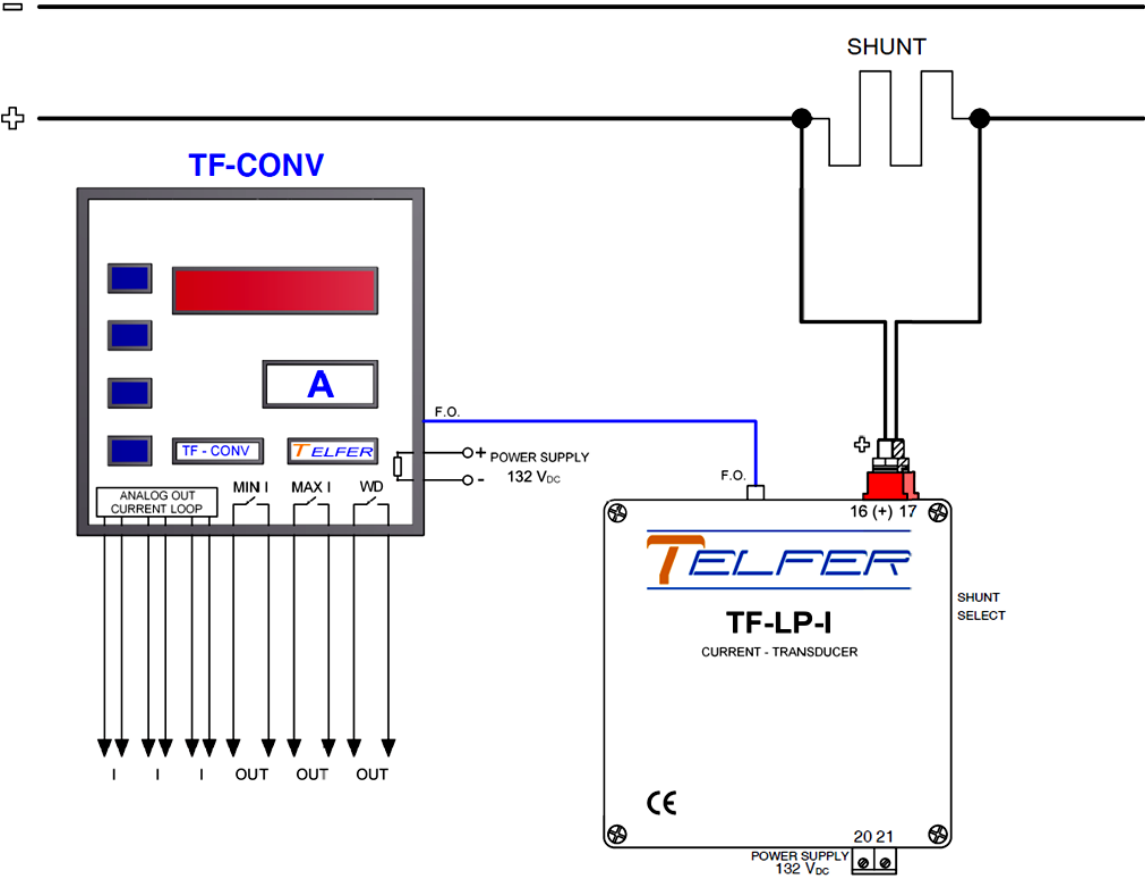
CURRENT AND VOLTAGE MEASURE SOLUTION 1



CURRENT AND VOLTAGE MEASURE SOLUTION 2



CURRENT MEASURE
SOLUTION



VOLTAGE MEASURE
SOLUTION

