

TRUE RMS MEASURE TRANSMITTER FOR CURRENT, VOLTAGE, POWER

Series TMLB - LBTN

ARDETEM

SFERE



Type

- ▶ Current measuring in true RMS value.
- ▶ Voltage measuring in true RMS value.
- ▶ Active power measuring in broad pass-band with current circuit on internal or external shunt: single or 3-phase balanced DC network, 3 or 4 wires.
- ▶ Normalised output: uni or bidirectional voltage or current (active or passive)..

Description

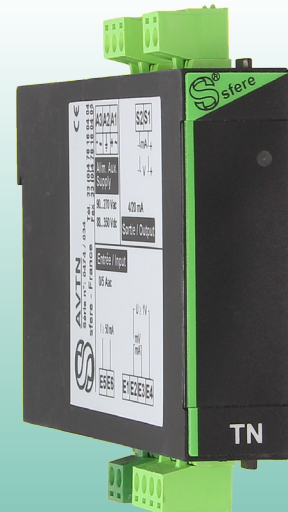
- ▶ Case: In self-extinguishing black UL94VO ABS
- ▶ Latching on symmetrical DIN rail.
- ▶ Plug-off connectors for screwed connections (2.5mm², flexible or rigid)
- ▶ Safened current input (1 and 5A) by a screwed connector.

Applications

- ▶ Variable speed drive
- ▶ Power grader
- ▶ Inductive heating

Environment

- ▶ Operating temperature: - 10 to + 60 °C
- ▶ Storage temperature: - 30 to + 70 °C
- ▶ Disturbance immunity: CEI 801-3 level 3, CEI 801-4 level 4, CEI 801-6 level 3
- ▶ Compliance with standards: EN 50081-2 : emission & EN 50082-2: immunity, (industrial environment)
- ▶ Compliance with European Directive (89/336, revision 92/31): Marked **CE**



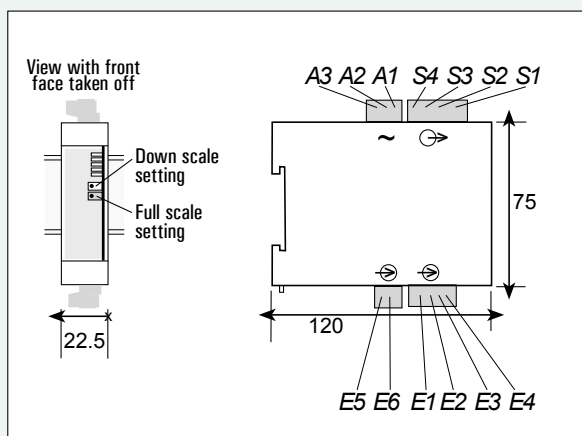
External features

Designed within a product line for processing industrial measures: pressure, temperature, speed, power, intensiveness, voltage, frequency..., the series TMLB ARDETEM or LBTN (SFERE) is declined in 6 ranges of instruments for AC measurement.

- **Voltage** TMLB-V/WLBTN
- **Current** Internal shunt TMLB-A/ALBTN
External shunt TMLB-AS/ALBTN-S
- **Active power for single-phase network**
Internal shunt TMLB-W1/WLBTN-1
External shunt TMLB-WS1/WLBTN-S1
- **Active power for 3-phase 3 wire balanced network**
Internal shunt TMLB-W1/3/WLBTN-1/3
External shunt TMLB-WS1/3/WLBTN-S1/3
- **Active power for 3-phase 4 wire balanced network**
Internal shunt TMLB-W1/4/WLBTN-1/4
External shunt TMLB-WS1/4/WLBTN-S1/4
- **Power for DC network**
Internal shunt TMLB-WC/WLBTN-C
External shunt TMLB-WCS/WLBTN-CS

Dimensions

Dimensions (H x L x D): 75 x 22.5 x 120 mm
(H=108, including terminals)



Protection : Case/ terminals IP 20
Weight : 189 gr.



Technical features

		Voltage	Current	Active power			
INPUT	Coding	TMLB-V/VLBTN	TMLB-A/ALBTN	TMLB-W1/WLBTN-1	TMLB-W1/3/WLBTN-1/3	TMLB-W1/4/WLBTN-1/4	TMLB-WC/WLBTN-C
	Version with external shunt for current circuit	-	TMLB-AS/ALBTN-S	TMLB-WS1/WLBTN-S1	TMLB-WS1/3/WLBTN-S1/3	TMLB-WS1/4/WLBTN-S1/4	TMLB-WCS/WLBTN-CS
	Network	-	-	Single phase	3-phase balanced 3w	3-phase balanced 4w	DC
	Nominal voltage UEN	0-10V to 0-750V (specify on order)	-	0-10 V to 0 - 750 V (specify on order)			
	Nominal current IEN	-	1 or 5 A (specify)	0-100 mA à 0-5 A (on request)	0-100 mV on external shunt		
	Overload	perma- nent	1,2 UEN	1.5 IEN	1.2 UEN measurable, 1.5 IEN measurable		
		instant	2 UEN / 10 s.	10 IEN / 10 s.	2 UEN / 10 s, 10 IEN / 10 s		
	Power draw		0.6 VA max.	0.5 VA max.	Voltage circuit: 1,3 KΩ / V Current circuit: 100mV shunt		
Frequency		DC to 10kHz (f > 10 kHz, consult)					

POWER SUPPLY OUTPUT	Current bidirectionnal	0-20mA, 4/20mA, Lr* < 750 Ω $\pm$ 20 mA, Lr* < 320 Ω	Voltage bidirectionnal	0-10 V, $\pm$ 10 V, Lr* > 1K Ω Lr* > 1K Ω
			*Lr = Load resistance	
TRANSFER	2 Versions:	High Voltage or Low Voltage (specify on order)	Power draw	on load : < 3 VA (1.5W) empty : < 2,2 VA (1.1W)
	High Voltage and Low Voltage	90...270 V _{AC} 50/60/400 Hz and 88 ...350 V _{DC} 20...40 V _{AC} 50/60/400 Hz and 20...64 V _{DC}	Galvanic partition	Input / Output / Power Supply 2 kV eff. 50Hz 1 min. (4 kV optional) < 0.3 %
Options	Response time	nominal: $\leq$ 200 ms [Tr]	Nonlinearity	
	Drift rate	< 0,5 % (with nominal Tr, if input frequency = 50Hz)	Accuracy rating	
	T° coefficient	$\leq$ 0.02%/°C	Voltage-Current:	0.5 for frequency < 1kHz 0.5 for peak factor $\leq$ 6 1 for frequency $\geq$ 1kHz 1 for a peak factor between 6 and 10
			Active power:	0.5 for frequency < 1kHz 1 for frequency $\geq$ 1kHz
	Input without DC component (AC only)		Response time:	Short > 60 ms Long < 30 s
	Passive current output : 0-20mA, 4-20mA, U = 30V max.			

Other features : consult.

Coding

◆ **Input type:** Series TMLB (ARDETEM) / WLBTN (SFERE).

See table above

◆ **Power supply type:**

- 2 : High Voltage
- 3 : Low Voltage

◆ **Ordering examples:**

For a **3-phase 4 wire balanced power converter (broad band)** with input on external shunt and 230 Vac power supply, request the reference:

TMLB-WS1/4 2 (ARDETEM) / WLBTN-S1/4 2 (SFERE)

For a true RMS measure current converter with input on internal shunt and 24 Vdc power supply, request the reference :

TMLB-A 3 (ARDETEM / ALBTN 3 (SFERE)

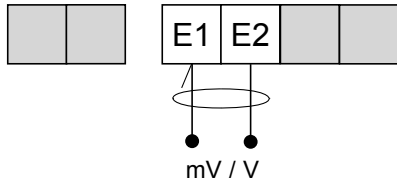
This appliance is designed for industrial applications. It has to be installed in an electrical cabinet, or equivalent.

Wiring

Lower connectors

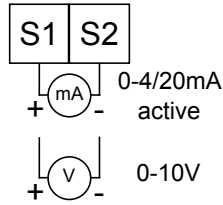
TMLB-V / VLBTN

Voltage converter / true effective measure (RMS)



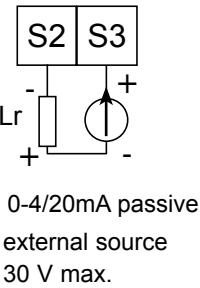
VOLTAGE INPUT

OUTPUT
active voltage and current

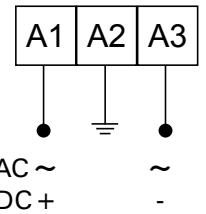


Upper connectors

passive current



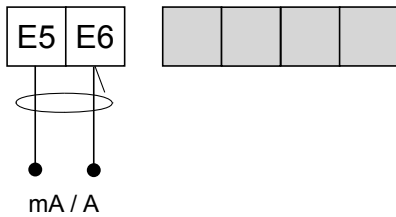
POWER SUPPLY



Lower connectors

TMLB-A / ALBTN

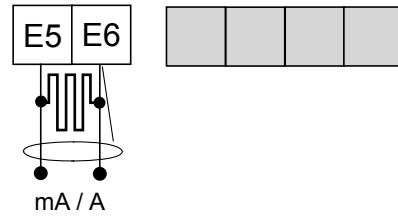
Current converter / true effective measure (RMS)



CURRENT INPUT

TMLB-AS / ALBTN-S

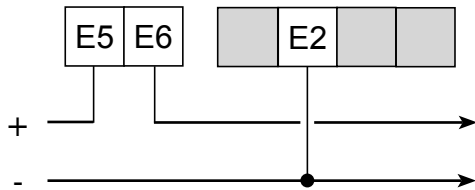
Current converter / on external shunt, true effective measure (RMS)



Lower connectors

TMLB-WC / WLBTN-WC

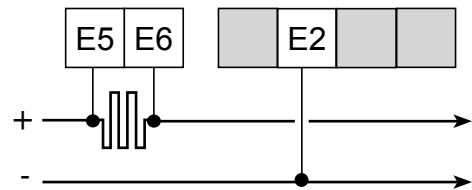
DC wattmeter (broad band)



POWER INPUT

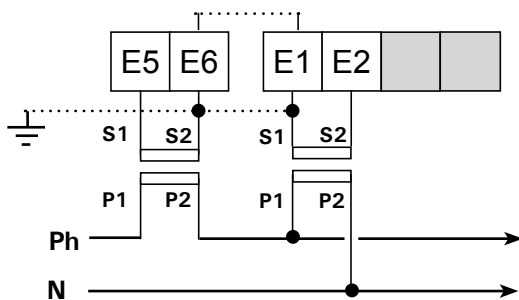
TMLB-WCS / WLBTN-CS

DC wattmeter (broad band) with current circuit on external shunt



TMLB-W1 / WLBTN-1

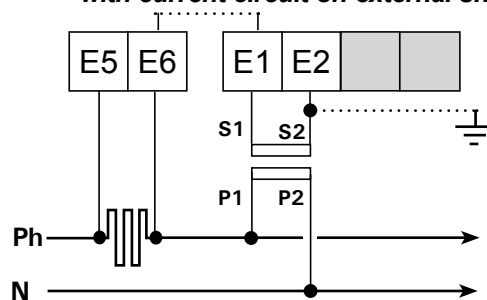
Single-phase wattmeter (broad band)



POWER INPUT

TMLB-WS1 / WLBTN-S1

Single-phase wattmeter (broad band) with current circuit on external shunt



⚠ without VT: connect the phase to E1 and the neutral to E2.

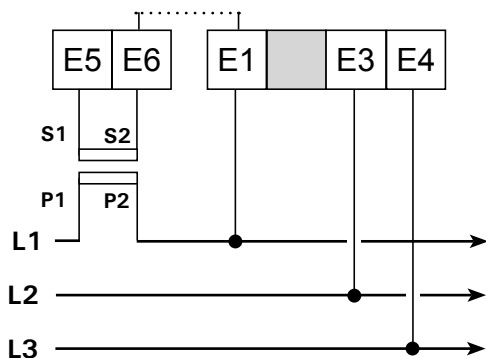
⚠ without VT: connect the neutral only to E2 (see the drawing TMLB-WCS / WLBTN-CS).

Lower connectors

POWER INPUT

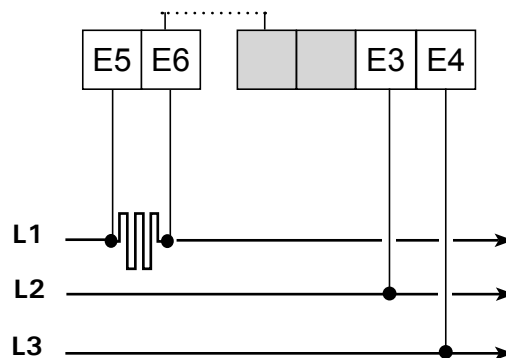
TMLB-W1/3 / WLBTN-1/3

Wattmeter: 3-phase 3 wire balanced (broad band)



TMLB-WS1/3 WLBTN-S1/3

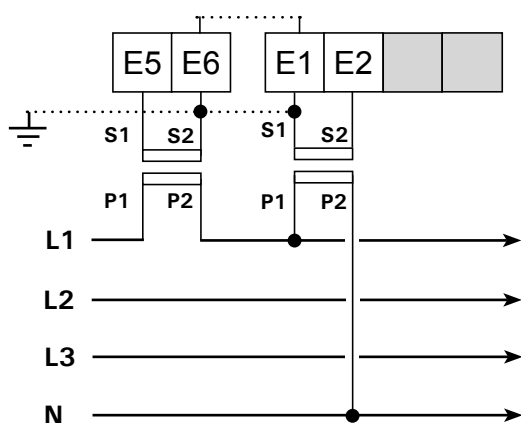
Wattmeter: 3-phase 3 wire balanced (broad band) with current circuit on external shunt



POWER INPUT

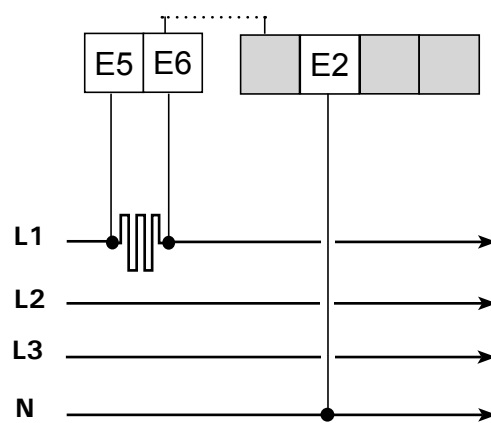
TMLB-W1/4 / WLBTN-1/4

Wattmeter: 3 phase 4 wire balanced (broad band)



TMLB-WS1/4 / WLBTN-S1/4

Wattmeter: 3-phase 4 wire balanced (broad band) with current circuit on external shunt



⚠ Without VT: Connect the phase L1 to E1 and the neutral to E2. Do not connect the ground.

Note: The measuring accuracy depends on the choice of the voltage or current transformers installed



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