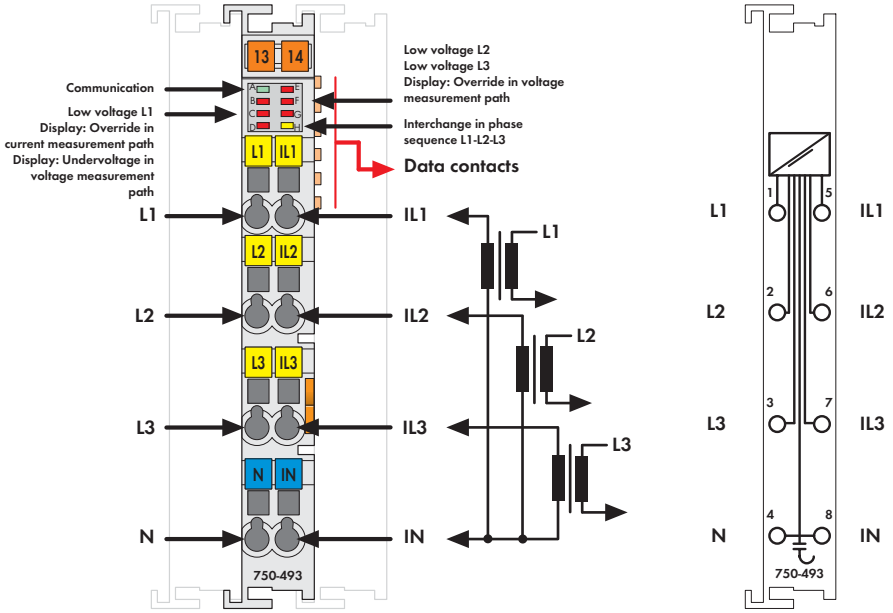
3-Phase Power Measurement Module



Delivered without miniature WSB markers

The 750-493 3-Phase Power Measurement Module measures the electrical data in a 3-phase supply network. The voltage is measured via network connection to L1, L2, L3 and N. The current of the three phases is fed to IL1, IL2, IL3 and IN via current transformers.
The 3-phase power measurement module transmits the root mean square values into the process image without requiring high computing power from the controller. For each phase, the effective power (P), the energy consumption (W) and the power factor (cos φ) are calculated by the 3-phase power measurement module using the root mean square values of all measured voltages (V) and currents (I).
For example, both the apparent power (S) and phase shift angle (φ) can be easily derived from these values. Therefore, the 3-phase power measurement module provides a comprehensive network analysis via the fieldbus. By means of values such as voltage, current, effective and apparent power consumption or load condition, the operator can regulate the supply to a drive or machine in the best possible way and protect the installation from damage/failure.

Description	Item No.	Pack. Unit
3-Phase Power Measurement Module (1 A)	**750-493**	1
3-Phase Power Measurement Module (5 A)	**750-493/000-001**	1
3-Phase Power Measurement Module (1 A)/T	**750-493/025-000**	1
Extended temperature range: -20 °C ... +60 °C		

Accessories	Item No.	Pack. Unit
Miniature WSB Quick marking system		
plain	**248-501**	5
with marking	see Section 11	

Approvals

Conformity marking	CE
Korea Certification	
UL 508	
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4
TÜV 07 ATEX 554086 X	I M2 Ex d I Mb,
	II 3 G Ex nA IIC T4 Gc,
	II 3 D Ex tc IIIC T135°C Dc
IECEx TUN 09.0001 X	Ex d I Mb,
	Ex nA IIC T4 Gc,
	Ex tc IIIC T135°C Dc

Technical Data

Number of measurement inputs	6 (3 voltage measurement inputs, 3 current measurement inputs)
Rated voltage	V_{LN} = 277 V AC/DC; V_{LL} = 480 V AC
Input resistance voltage path (typ.)	1071 kΩ
Measuring current (max.)	1 A (750-493)
	5 A (750-493/000-001)
Input resistance current path (typ.)	22 mΩ (750-493)
	5 mΩ (750-493/000-001)
Resolution	16 bits
Frequency range with activated DC filter	10 Hz ... 2000 Hz
Frequency range with deactivated DC filter	0 Hz ... 2000 Hz
Max. operating frequency	7.2 kHz
Signal form	any (in consideration of the maximum operating frequency)
Measuring error for current and voltage	AC: Max 0.5 %; DC: 1.0 % (of the upper range value)
Measuring procedure	True RMS measurement
Measuring cycle time	Adjustable for measured value, Min_Max_Values
Measured values	Effective power, energy, power factor (cos φ)
Power supply	via system voltage internal bus (5 V)
Current consumption (internal)	100 mA
Rated surge voltage	4 kV
Bit width	2 x 48-bit data, 2 x 24-bit control/status (option)
Wire connection	CAGE CLAMP®
Cross sections	0.08 mm² ... 2.5 mm² / AWG 28 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Width	12 mm
Weight	48.5 g
EMC immunity of interference	acc. to EN 61000-6-2
EMC emission of interference	acc. to EN 61000-6-3