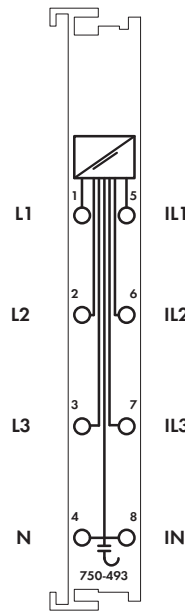
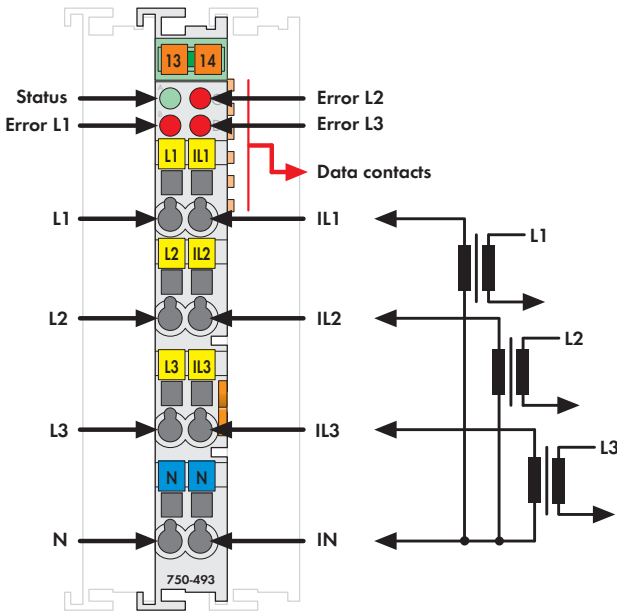




# 3-Phase Power Measurement Module



Delivered without miniature WSB markers


The 3-phase power measurement module measures the electrical data in a three-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) and the energy consumption (W) are calculated by the 3-phase power measurement module using the root mean square values for all measured voltages (V) and currents (I). For example, both the apparent power (S) and phase shift angle ( $\phi$ ) can be easily derived from these values.

Therefore, the 3-phase power measurement module provides comprehensive network analysis via fieldbus. By means of values such as voltage, current, effective and apparent power consumption or load condition, the operator is able to optimally regulate the supply to a drive or machine and protect the installation from damage and 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
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see pages 352 ... 353	
<b>Approvals</b>		
Also see "Approvals Overview" in Section 1		
Conformity marking	CE	
UL 508		

Technical Data	
Number of inputs	6 (3 voltage inputs, 3 current inputs)
Measuring voltage (max.)	500 VAC 3~
Input resistance voltage path (typ.)	500 kΩ
Measuring current (max.)	1 A (750-493) 5 A (750-493/000-001)
Input resistance current path (typ.)	33 mΩ (750-493) 6.8 mΩ (750-493/000-001)
Resolution	16 bits
Frequency range with activated DC filter	10 - 500Hz
Frequency range with deactivated DC	0 - 500Hz
Max. operating frequency	approx. 2 kHz
Signal form	any (in consideration of the frequency range and max. operating frequency)
Measuring error for current and voltage	0.5 % (of the upper range value)
Measuring procedure	True RMS with 64,000 samples/s
Measuring cycle time	configurable, preset at 50 ms per measured value
Measured values	Effective power, energy, power factor (cos φ)
Power supply	via system voltage internal bus (5 V)
Current consumption (internal)	115 mA
Isolation	1500 V system/supply
Bit width	2 x 48 bits data 2 x 24 bits control/status (optional)
Wire connection	CAGE CLAMP®
Cross sections	0.08 mm² ... 2.5 mm² / AWG 28 ... 14
Stripped lengths	8 ... 9 mm / 0.33 in
Width	12 mm
Weight	48.5 g
EMC: CE - immunity to interference	acc. to EN 61000-6-2 (2005)
EMC: CE - emission of interference	acc. to EN 61000-6-3 (2007)

# 4-Channel Analog Output Module 0/4-20 mA

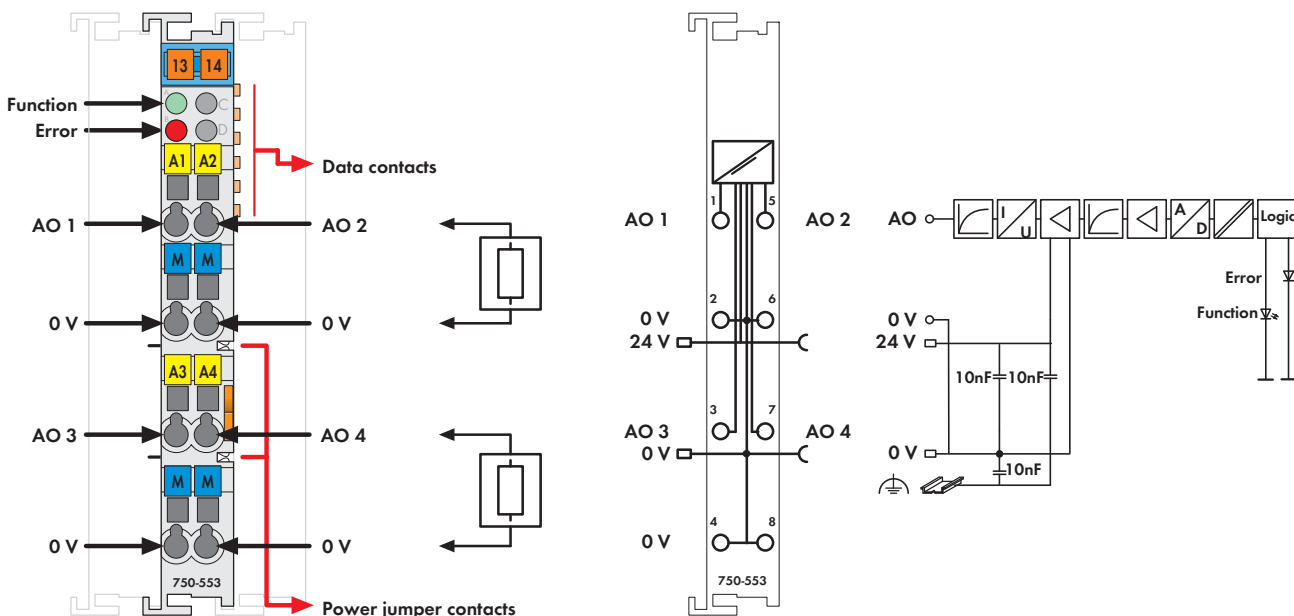





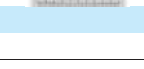




Fig. 750 Series/Technical data see page 24/Delivered without miniature WSB markers  
750/753 Series marking see pages 10 ... 11 / 12 ... 13

The analog output module generates signals of a standard magnitude 0-20mA.

The output signal is electrically isolated and transmitted with a resolution of 12 bits.

Power is derived from the field side.

The output channels of the module have a common ground potential.

Description	Item No.	Pack. Unit
4AO 0-20mA	750-553	1
4AO 4-20mA	750-555	1
4AO 0-20mA (without connector)	753-553	1
4AO 4-20mA (without connector)	753-555	1
<b>Accessories</b>		
 753 Series Connectors	753-110	25
 Coding elements	753-150	100
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
 with marking	see pages 352 ... 353	
<b>Approvals</b>		
Also see "Approvals Overview" in Section 1		
Conformity marking	CE	
Shipbuilding	ABS, BV, DNV, GL, KR, LR*, NKK*, PRS*, RINA* *753 Series, pending	
	UL 508	
	ANSI/ISA 12.12.01 Class I, Div. 2, Grp. ABCD, T4	
	EN 60079-0, -15 I M2 / II 3 GD Ex nA IIC T4	
	EN 61241-0, -1	

Technical Data	
No. of outputs	4
Current consumption typ. (internal)	60 mA
Power supply	via system voltage DC/DC
Signal current	0 - 20mA (750-553, 753-553) 4 - 20mA (750-555, 753-555)
Load impedance	either 0 ... 300 Ω or 300 ... 600 Ω (use same range of impedance for all loads!)
Resolution	12 bits
Conversion time (typ.)	10 ms
Recovery time (typ.)	100 ms
Measuring error (25°C)	< ± 0.1 % of the full scale value
Temperature coefficient	< ± 0.01 % /K of the full scale value
Isolation	500 V system/supply
Bit width	4 x 16 bits data 4 x 8 bits control/status (option)
Wire connection	CAGE CLAMP®
Cross sections	0.08 mm² ... 2.5 mm² / AWG 28 ... 14
Stripped lengths, 750/753 Series	8 ... 9 mm / 0.33 in 9 ... 10 mm / 0.37 in
Width	12 mm
Weight	53.5 g
EMC: CE - immunity to interference	acc. to EN 61000-6-2 (2005)
EMC: CE - emission of interference	acc. to EN 61000-6-4 (2007)
EMC: marine applications	
- immunity to interference	acc. to Germanischer Lloyd (2003)
EMC: marine applications	
- emission of interference	acc. to Germanischer Lloyd (2003)