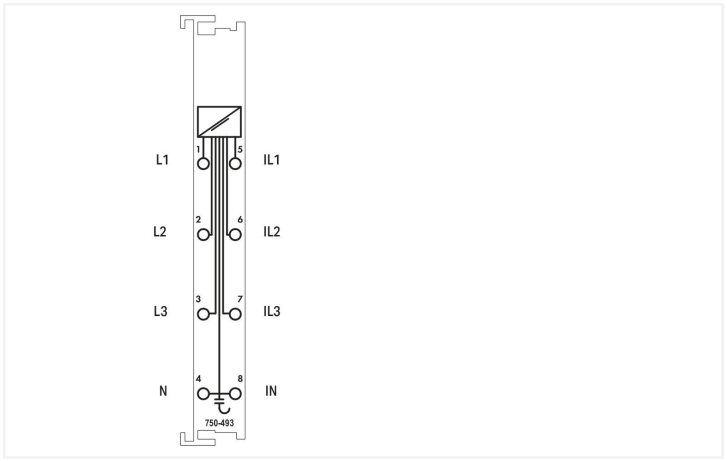
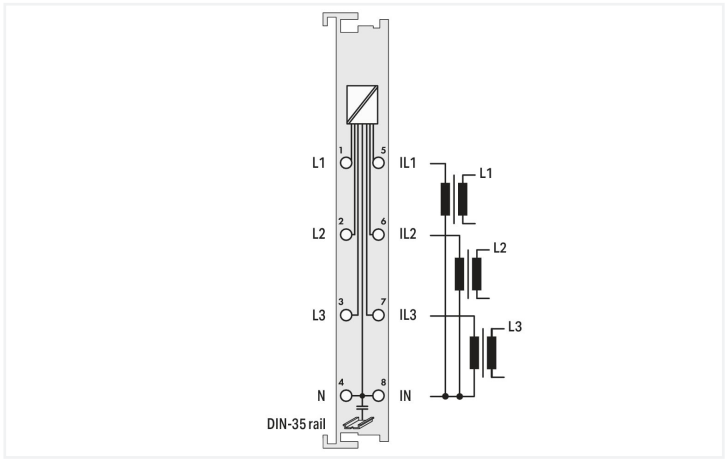
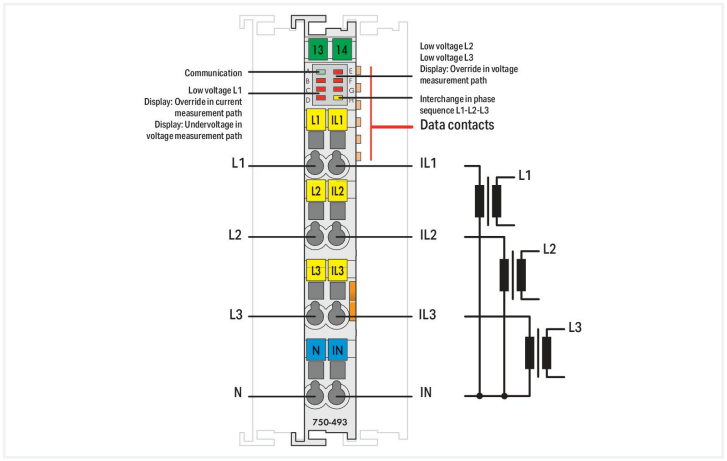
Data Sheet | Item Number: 750-493

3-Phase Power Measurement; 480 VAC, 1 A

https://www.wago.com/750-493







The 750-493 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 750-493 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 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 (φ) can be easily derived from these values.
Therefore, the 750-493 Module provides comprehensive network analysis via fieldbus. Metrics, such as effective and apparent power consumption or load condition, enable the operator to optimize supply to a drive or machine. This can protect the installation from damage and failure.

Technical data	
Number of measurement inputs	6 (3 voltage measurement inputs, 3 current measurement inputs)
Signal type	Power measurement
Signal form	Any periodic signals (considering the threshold frequencies)
Resolution [bit]	16 bits
Data width	2 x 48-bit data; 2 x 24-bit control/status (optional)
Voltage path input resistance (typ.)	1071 kΩ
Current path input resistance (typ.)	22 mΩ
Reference for measurement error	AC current/voltage
Measurement error (reference temperature)	25 °C
Measurement error, deviation (max.) from the upper-range value	0.5 %
Measurement current (max.)	1 A
Measurement voltage (max.)	500 VAC, 3 phases
Measurement cycle time	Adjustable measuring cycle time for Min_Max_Values
Frequency range with activated DC filter	10 … 2000 Hz
Frequency range with deactivated DC filter	0 … 2000 Hz
Frequency range (mains frequency)	45 … 65 Hz

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Technical data

Limit frequency	7.2 kHz
Rated voltage	U_{LN} = 277 V AC/DC; U_{LL} = 480 VAC
Calculated values	Active power, active energy, grid frequency, cos φ
Measurement components	Evaluating
Measurement method	True RMS measurement
Configuration options	WAGO-I/O-*CHECK* CODESYS Library ***e!****COCKPIT*
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	100 mA
Isolation	4 kV system/field
Rated surge voltage	4 kV
Indicators	LED (A) green: Communication; LED (B-G) red: Error L1, Display: Override in current measurement path, Display: Undervoltage in voltage measurement path, Error L2, Error L3, Display: Override in voltage measurement path; LED (H) yellow: Interchange in phase sequence L1-L2-L3

Connection data

Connection technology: inputs/outputs	8 x CAGE CLAMP®
Connection type 1	Inputs/outputs
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inches

Physical data

Width	12 mm / 0.472 inches
Height	100 mm / 3.937 inches
Depth	67.8 mm / 2.669 inches
Depth from upper-edge of DIN-rail	60.6 mm / 2.386 inches

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Color	light gray
Housing material	Polycarbonate; polyamide 6.6
Fire load	0.942 MJ
Weight	48.5 g
Conformity marking	CE

Environmental requirements

Ambient temperature (operation)	0 … +55 °C
Surrounding air temperature (storage)	-25 … +85 °C
Protection type	IP20
Pollution degree (5)	2 per IEC 61131-2
Operating altitude	0 … 2000 m / 0 … 6562 ft
Mounting position	horizontal (standing/lying); vertical
Relative humidity (without condensation)	95 %
Vibration resistance	per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	per EN 61000-6-2
EMC emission of interference	per EN 61000-6-3
Exposure to pollutants	per IEC 60068-2-42 and IEC 60068-2-43

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Environmental requirements

Permissible H_2S contaminant concentration at a relative humidity 75 %	10 ppm
Permissible SO_2 contaminant concentration at a relative humidity 75 %	25 ppm

Approvals / Certificates

General approvals

Approval	Standard	Certificate Name
EAC Brjansker Zertifizierungs-stelle	TP TC 020/2011	EAC RU C-DE.AM02.B.00087/19
KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-AIM750
UL Underwriters Laboratories Inc. (ORDINARY LOCATI-ONS)	UL 508	E175199 Sec.1

Approvals for hazardous areas

Approval	Standard	Certificate Name
ATEX TUEV Nord Cert GmbH	EN 60079-0	
CCC CNEX	CNCA-C23-01	2020312310000213 (Ex ec IIC T4 Gc)
EAC Brjansker Zertifizierungs-stelle	TP TC 012/2011	EAC RU C-DE.AM02.B.00163/19 (2Ex nA IIC T4 Gc X)
IECEx TUEV Nord Cert GmbH	IEC 60079-0	IECEx_TUN_14.0035_X (Ex ec IIC T4 Gc)
INMETRO TÜV Rheinland do Brasil Ltda.	IEC 60079-0	BR-Ex_TÜV 12.1297 X
UKEx WAGO GmbH & Co. KG	EN 60079-0	UKCA_WA GO22UKEX003X_ec
UL Underwriters Laboratories Inc. (HAZARDOUS LOCA-TIONS)	UL 121201	E198726 Sec.1

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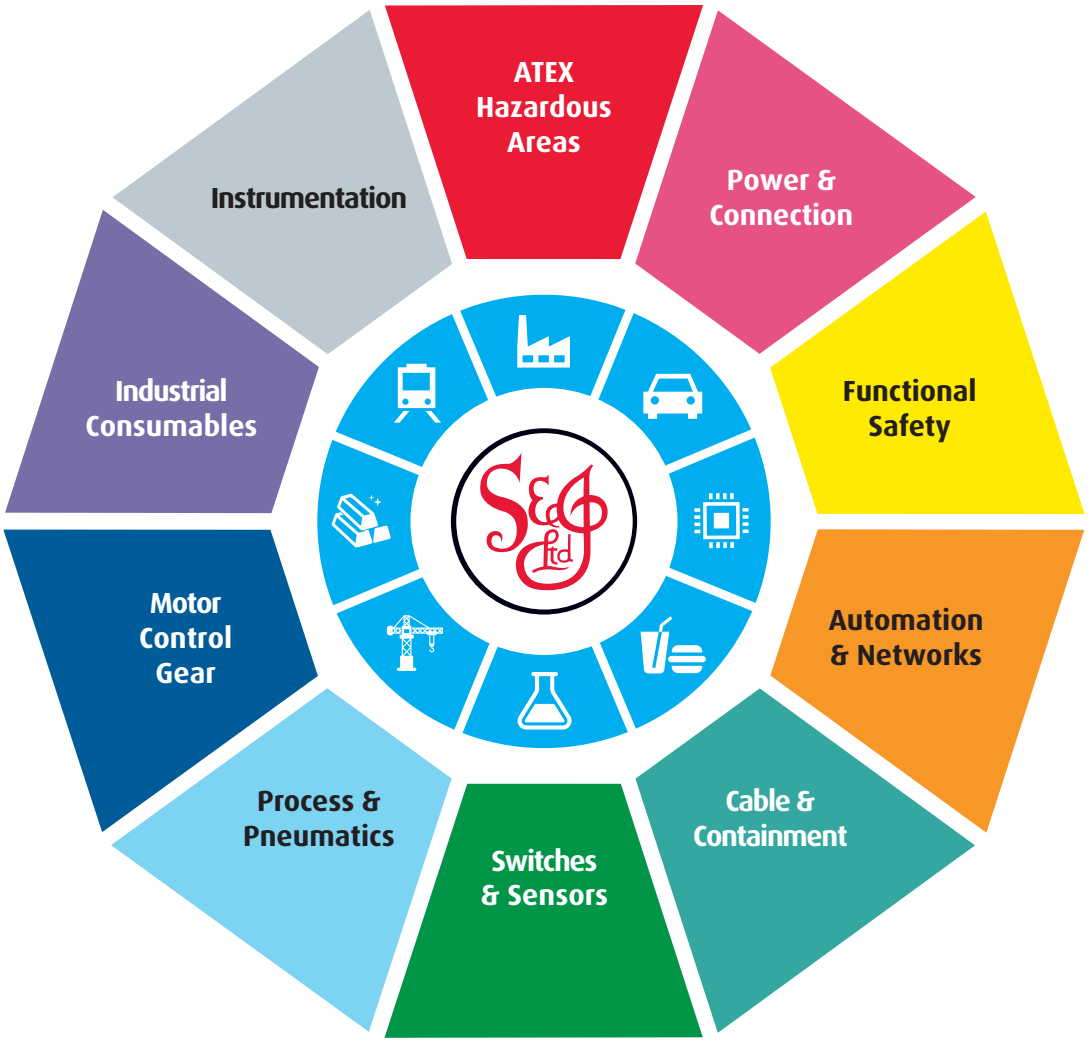

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