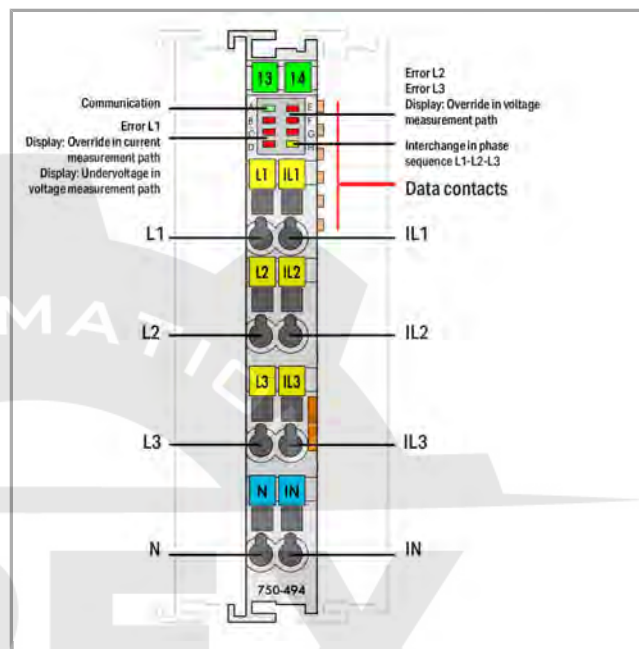
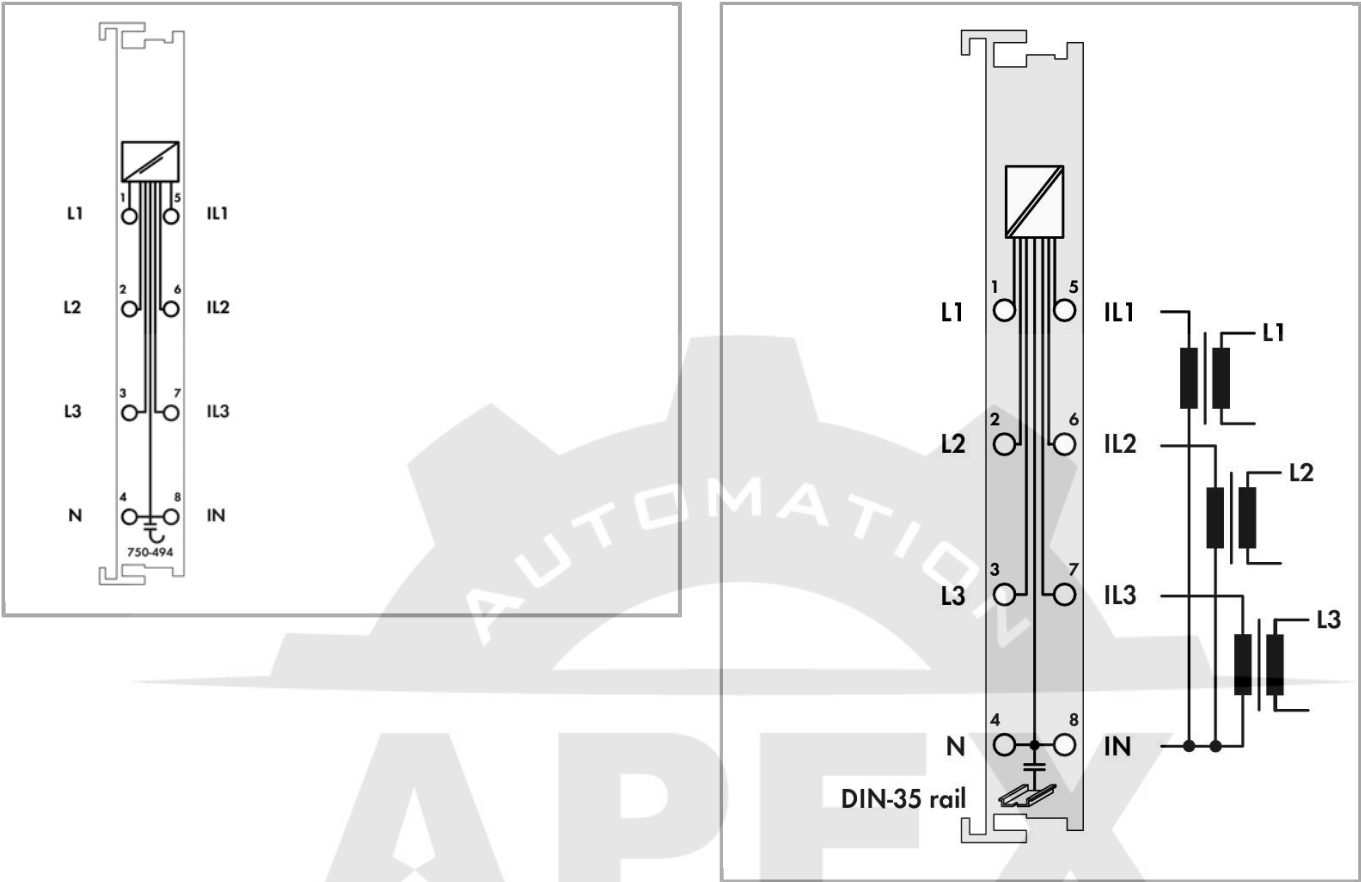


750-494



RoHS
Compliant

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Item description

The 750-494 3-Phase Power Measurement Module measures 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 750-494 Module transmits metrics (e.g., reactive/apparent/effective power, energy consumption, power factor, phase angle, frequency, over-/undervoltage) directly into the process image, without requiring high computing power from the controller. Both comprehensive metrics and harmonic analysis up to the 41st harmonic permit an extensive network analysis via the fieldbus.

Metrics allow the operator to optimize the supply to a drive or machine, protecting the system from damage and failure. The 4-quadrant display indicates the type of load (inductive, capacitive) and whether it is an energy consumer or producer.

Data

Technical Data

Number of measurement inputs	6 (3 voltage measurement inputs, 3 current measurement inputs)
Type of signal	Power measurement
Signal form	any periodic signals (taking the maximum frequency into account)
Resolution [bit]	24 Bit
Bit width	2 x 128-bit data; 2 x 64-bit control/status
Input resistance voltage path (typ.)	1072 kΩ
Input resistance current path typ.	22 mΩ
Bezug für Messfehler	AC Strom/Spannung

Messfehler, Bezugstemperatur	25 °C
Messfehler, Abweichung max. vom Messbereichsendwert	0.5 %
Measuring current (max.)	1 A
Measuring cycle time	Adjustable for arithmetic mean value, Min_Max_Values
Frequency range, power supply frequency	45 ... 65 Hz
Frequency range, harmonics analysis	0 ... 3300 Hz
Operating frequency	15.9 kHz
Rated voltage	$V_{LN} = 277 \text{ V AC/DC}; V_{LL} = 480 \text{ V AC}$
Measured values	Line-to-line voltage, power output, energy, power factors, mains frequency, harmonic analysis (up to the 41st harmonic), THD
Messkomponenten	Evaluating
Measuring procedure	True RMS measurement
System supply voltage	DC 5 V; via data contacts
Current consumption, system supply (5 V)	100 mA
Isolation	4 kV System/Feld
Rated surge voltage	4 kV

Connection data

Connection technology: In-/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 inch

Geometrical Data

Width	12 mm / 0.472 inch
Height	67.8 mm / 2.669 inch
Height from upper-edge of DIN-35 rail	60.6 mm / 2.386 inch
Depth	100 mm / 3.937 inch

Mechanical data

Type of mounting	DIN-35 rail
------------------	-------------

Material Data

Color	light gray
Housing material	Polycarbonate, polyamide 6.6
Weight	49.628 g
Conformity marking	1

Environmental Requirements

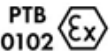
Surrounding air (operating) temperature	0 ... 55 °C
Surrounding air (storage) temperature	-40 ... 85 °C
Protection class	IP20
Degree of pollution (5)	2
Operating altitude	0 ... 2000 m
Mounting position	horizontal (standing/lying) or vertical
Relative air humidity (no condensation)	95 %
Vibration resistance	4g per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	acc. to EN 61000-6-2
EMC emission of interference	acc. to EN 61000-6-3
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible H ₂ S contaminant concentration at a relative humidity 75 %	10 ppm
Permissible SO ₂ contaminant concentration at a relative humidity 75 %	25 ppm

Commercial data

Product Group	15 (Remote I/O)
Country of origin	DE
GTIN	4050821548232
Customs Tariff No.	85389099990

Approvals / Certificates

Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079-0	TÜV 07 ATEX 554086 X en.
	TUEV Nord TUEV Nord Cert GmbH	IEC 60079-0	IECEX TUN 09.0001 X
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	ANSI/ISA 12.12.01	E198726 Sec.1

Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	KC National Radio Research Agency	Article 58-2, Clause 3	MSIP- REM-W43- AIM750
	KC National Radio Research Agency	Article 58-2, Clause 3	MSIP- REM-W43- AIM750

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	PRS Polski Rejestr Statków	-	TE/2236 /880590 /19

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL UL International Netherlands B.V. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.1

Compatible products

current transformer

	Item no.: 855-1001/2500-1001 Plug-in current transformer; Primary rated current: 2500 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	855-1001 /2500-1001
	Item no.: 855-1700/032-000 Plug-in current transformer; Primary rated current 32 A; Secondary rated current 320 mA	855-1700 /032-000

Item no.: 855-2701/035-001

	Plug-in current transformer; Primary rated current: 35 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1	/035-001	855-2701
	Item no.: 855-2701/064-001 Plug-in current transformer; Primary rated current: 64 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1	/064-001	855-2701
	Item no.: 855-3001/060-003 Split-core current transformer; Primary rated current: 60 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 3; Cable length: 3 m	/060-003	855-3001
	Item no.: 855-3001/100-003 Split-core current transformer; Primary rated current: 100 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 3; Cable length: 3 m	/100-003	855-3001
	Item no.: 855-3001/200-001 Split-core current transformer; Primary rated current: 200 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m	/200-001	855-3001
	Item no.: 855-3001/250-001 Split-core current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m	/250-001	855-3001
	Item no.: 855-301/050-103 Plug-in current transformer; Primary rated current: 50 A; Secondary rated current: 1 A; Rated power: 1.25 VA; Accuracy class: 3	/050-103	855-301
	Item no.: 855-301/060-101 Plug-in current transformer; Primary rated current: 60 A; Secondary rated current: 1 A; Rated power: 1.25 VA; Accuracy class: 1	/060-101	855-301
	Item no.: 855-301/075-201 Plug-in current transformer; Primary rated current: 75 A; Secondary rated current: 1 A; Rated power: 2.5 VA; Accuracy class: 1	/075-201	855-301
	Item no.: 855-301/100-201 Plug-in current transformer; Primary rated current: 100 A; Secondary rated current: 1 A; Rated power: 2.5 VA; Accuracy class: 1	/100-201	855-301
	Item no.: 855-301/150-501 Plug-in current transformer; Primary rated current: 150 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	/150-501	855-301
	Item no.: 855-301/200-501 Plug-in current transformer; Primary rated current: 200 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	/200-501	855-301
	Item no.: 855-301/250-501 Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	/250-501	855-301
	Item no.: 855-301/400-1001 Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	/400-1001	855-301
	Item no.: 855-301/600-1001 Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 1 A; Rated power:		



10 VA; Accuracy class: 1

855-301

/600-1001

**Item no.: 855-4001/100-001**

Split-core current transformer; Primary rated current: 100 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m

855-4001

/100-001

**Item no.: 855-4001/150-001**

Split-core current transformer; Primary rated current: 150 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m

855-4001

/150-001

**Item no.: 855-4001/200-001**

Split-core current transformer; Primary rated current: 200 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m

855-4001

/200-001

**Item no.: 855-401/250-501**

Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1

855-401

/250-501

**Item no.: 855-401/400-501**

Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1

855-401

/400-501

**Item no.: 855-401/600-501**

Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1

855-401

/600-501

**Item no.: 855-4101/200-001**

Split-core current transformer; Primary rated current: 200 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m

855-4101

/200-001

**Item no.: 855-4101/250-001**

Split-core current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m

855-4101

/250-001

**Item no.: 855-4101/400-001**

Split-core current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m

855-4101

/400-001

**Item no.: 855-5001/1000-000**

Split-core current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 5 m

855-5001

/1000-000

**Item no.: 855-5001/250-001**

Split-core current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 0.5 VA; Accuracy class: 1; Cable length: 5 m

855-5001

/250-001

**Item no.: 855-5001/400-000**

Split-core current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 5 m

855-5001

/400-000

**Item no.: 855-5001/600-000**

Split-core current transformer; Primary rated current: 600 A; Secondary rated current: 1 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 5 m

855-5001

/600-000

Item no.: 855-501/1000-1001

Plug-in current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power:



10 VA; Accuracy class: 1

855-501

/ 1000-1001

**Item no.: 855-501/400-1001**

Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1

855-501

/ 400-1001

**Item no.: 855-501/600-1001**

Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1

855-501

/ 600-1001

**Item no.: 855-501/800-1001**

Plug-in current transformer; Primary rated current: 800 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1

855-501

/ 800-1001

**Item no.: 855-5101/1000-000**

Split-core current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 5 m

855-5101

/ 1000-000

**Item no.: 855-601/1500-501**

Plug-in current transformer; Primary rated current: 1500 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1

855-601

/ 1500-501

**Item no.: 855-801/1000-1001**

Plug-in current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1

855-801

/ 1000-1001

**Item no.: 855-801/2000-1001**

Plug-in current transformer; Primary rated current: 2000 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1

855-801

/ 2000-1001

Marking accessories**Item no.: 2009-145**

Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type

2009-145

**Item no.: 2009-145/000-002**

Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type

2009-145

/ 000-002

**Item no.: 2009-145/000-005**

Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type

2009-145

/ 000-005

**Item no.: 2009-145/000-006**

Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type

2009-145

/ 000-006

**Item no.: 2009-145/000-007**

Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type

2009-145

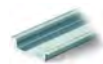
/ 000-007

**Item no.: 2009-145/000-012**

Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type

2009-145

/ 000-012

	Item no.: 2009-145/000-023 Mini-WSB Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	2009-145 /000-023
	Item no.: 2009-145/000-024 Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	2009-145 /000-024
	Item no.: 248-501 Miniature WSB Quick marking system; plain; Marker width 5 mm; 10 strips with 10 markers per card	248-501
	Item no.: 248-501/000-002 Mini-WSB marking card; as card; not stretchable; plain; snap-on type	248-501 /000-002
	Item no.: 248-501/000-005 Mini-WSB marking card; as card; not stretchable; plain; snap-on type	248-501 /000-005
	Item no.: 248-501/000-006 Mini-WSB marking card; as card; not stretchable; plain; snap-on type	248-501 /000-006
	Item no.: 248-501/000-007 Mini-WSB marking card; as card; not stretchable; plain; snap-on type	248-501 /000-007
	Item no.: 248-501/000-012 Mini-WSB marking card; as card; not stretchable; plain; snap-on type	248-501 /000-012
	Item no.: 248-501/000-017 Mini-WSB marking card; as card; not stretchable; plain; snap-on type	248-501 /000-017
	Item no.: 248-501/000-023 Mini-WSB marking card; as card; not stretchable; plain; snap-on type	248-501 /000-023
	Item no.: 248-501/000-024 Mini-WSB marking card; as card; not stretchable; plain; snap-on type	248-501 /000-024
	Item no.: 750-103 Group marker carrier	750-103
	Item no.: 750-107 Group marker carrier	750-107
Carrier rail		
	Item no.: 210-112 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm	210-112
	Item no.: 210-113 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715	210-113
	Item no.: 210-114 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715	210-114

	Item no.: 210-115 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm	210-115
	Item no.: 210-118 Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715	210-118
	Item no.: 210-196 Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715	210-196
	Item no.: 210-197 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715	210-197
	Item no.: 210-198 Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715	210-198
	Item no.: 210-504 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715	210-504
	Item no.: 210-505 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715	210-505
	Item no.: 210-506 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715	210-506
	Item no.: 210-508 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715	210-508
General accessories		
	Item no.: 2007-8873 Compact terminal block; for current and voltage transformers	2007-8873
	Item no.: 2007-8875 Compact terminal block; for current transformer circuit	2007-8875
	Item no.: 855-8001 Power tap; with fuse; 2,5 mm ² (12 AWG) - 6 mm ² (10 AWG); Phase	855-8001
	Item no.: 855-8002 Power tap; without fuse; 2,5 mm ² (12 AWG) - 6 mm ² (10 AWG); N-conductor	855-8002
	Item no.: 855-8003 Power tap; with fuse; 10 mm ² (8 AWG) - 16 mm ² (6 AWG); Phase	855-8003
	Item no.: 855-8004 Power tap; without fuse; 10 mm ² (8 AWG) - 16 mm ² (6 AWG); N-conductor	855-8004
	Item no.: 855-951/250-000 Current and voltage tap up to 95 mm ² ; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 0.5; fused	855-951 / 250-000
shield connection		
	Item no.: 790-108 Shield clamping saddle; 11 mm wide; diameter of compatible conductor	790-108
	Item no.: 790-116 Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm	790-116
	Item no.: 790-124 Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm	790-124

	Item no.: 790-140 Shield clamping saddle; diameter of compatible conductor	790-140
	Item no.: 790-208 Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm	790-208
	Item no.: 790-216 Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm	790-216
	Item no.: 790-220 Shield clamping saddle; 30 mm wide; 6 ... 20 mm	790-220
system box		
	Item no.: 850-804 IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 4 x M20, 16 x M16, 28 x M12 cable grip	850-804
	Item no.: 850-804/000-001 IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 2 x M20, 13 x M16, 32 x M12 cable grip	850-804
	Item no.: 850-805 IP65 enclosure; Stainless steel; WxHxD (600x123x200 mm); 4 x M20, 19 x M16, 67 x M12 cable grip	850-805
	Item no.: 850-814/002-000 IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate	850-814
	Item no.: 850-815/002-000 IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate	850-815
	Item no.: 850-816/002-000 IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate	850-816
	Item no.: 850-817/002-000 IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate	850-817
	Item no.: 850-825 IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20	850-825
	Item no.: 850-826 IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip	850-826
	Item no.: 850-826/002-000 IP65 enclosure; Aluminium (RAL 7035); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip	850-826
	Item no.: 850-827 IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip	850-827
	Item no.: 850-827/002-000 IP65 enclosure; Aluminium (RAL 7035); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip	850-827
	Item no.: 850-828	



IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip

850-828



Item no.: 850-828/002-000

IP65 enclosure; Aluminium (RAL 7035); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip

/002-000

850-828



Item no.: 850-834

IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20

850-834



Item no.: 850-835

IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

850-835



Item no.: 850-836

IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

850-836

Downloads

Documentation

Manual

3-Phase Power Measurement Module
480 V

V 1.2.0

pdf
4.8 MB

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Bid Text

750-494
IO-Klemmen

Oct 2, 2014

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Additional Information

Disposal; Electrical and electronic equipment, Packaging

V 1.0.0

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System Description

Overview on WAGO-I/O-SYSTEM 750 approvals

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750/753 Series I/O-System – General Product Information

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Application Notes

Application Note CoDeSys 2.3

Application Note for the 750-494 3-Phase Power Measurement Module

Nov 11, 2014

zip
1.7 MB

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The application note for the 3-Phase Power Measurement Module 750-494 shows how the measured values of the power measurement module can be read. It is also shown how the power module can be configured using the WAGO-I/O-PRO- V2.3 visualization tool.

**Application note SIEMENS**

WagoTIA_PowerMeasurement_494 (a500611)

V1.0.1

zip
13.7 MB[Download](#)

This application note shows how to access the Wago 3-Phase Power measurement module in TIA. The example project contains two PLC devices, one for a S7-300 and one for a S7-1500. The S7-1500 PLC supports optimized block access.

WagoS7_PowerMeasurement_494 (a500610)

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This application note shows how to access the Wago 3-Phase Power measurement module in Step 7 V5.5.

Libraries**e!COCKPIT libraries**

e!COCKPIT library description WagoAppPowerMeasurement

pdf
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3D Download 750-494

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Subject to changes.