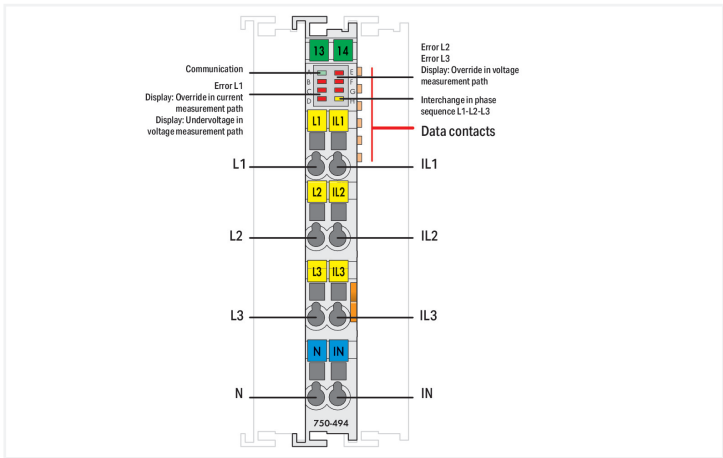
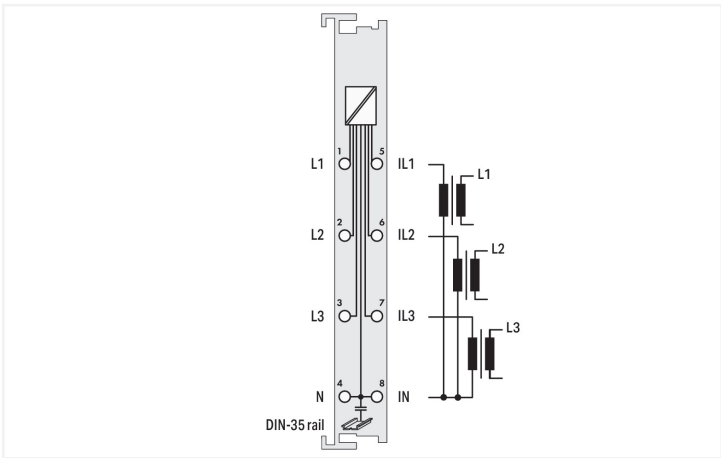
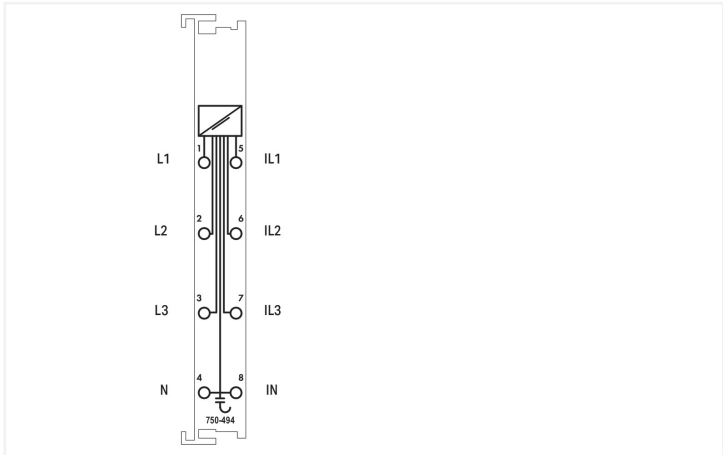




Color: light gray



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 clamping points 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 all metrics (e.g., reactive/apparent/effective power, energy consumption, power factor, phase angle, frequency, over-/undervoltage) directly to the process image, without requiring high computing power from the controller. Both comprehensive metrics and harmonic analysis up to the 41st harmonic permit extensive network analysis via the fieldbus. These metrics enable the operator to optimize supply to a drive or machine, protecting the system from damage and failure. The four-quadrant display indicates the load type (inductive, capacitive) and whether it is an energy consumer or producer.

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]	24 bits
Data width	2 x 128-bit data; 2 x 64-bit control/status
Voltage path input resistance (typ.)	1072 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 cycle time	Adjustable for the arithmetic mean value, min./max. values
Frequency range (mains frequency)	45 ... 65 Hz
Frequency range (harmonics analysis)	0 ... 3300 Hz
Limit frequency	15.9 kHz
Rated voltage	U <sub>LN</sub> = 277 VAC/DC; U <sub>LL</sub> = 480 VAC



Technical data		
Calculated values	Line-to-line voltage, power output, energy, power factors, mains frequency, harmonic analysis (up to the 41st harmonic), THD	
Measurement components	Evaluating	
Measurement method	True RMS measurement	
Configuration options	WAGO-I/O-CHECK CODESYS Library <b>e!</b> 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	0.955 MJ	
Weight	49.6 g	
Conformity marking	CE	

Environmental requirements		
Ambient temperature (operation)	0 ... +55 °C	
Ambient temperature (storage)	-25 ... +85 °C	
Protection type	IP20	
Pollution degree	2	
Operating altitude	0 ... 2000 m / 0 ... 6562 ft	
Mounting position	horizontal (standing/lying); vertical	
Relative humidity (without condensation)	95 %	
Vibration resistance	4g 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	
Permissible H <sub>2</sub> S contaminant concentration at a relative humidity 75 %	10 ppm	



Environmental requirements

Permissible SO <sub>2</sub> contaminant concentration at a relative humidity 75 %	25 ppm
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Commercial data

Product Group	15 (I/O System)
eCl@ss 10.0	27-24-26-05
eCl@ss 9.0	27-24-26-05
ETIM 8.0	EC001601
ETIM 7.0	EC001601
PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
GTIN	4050821548232
Customs tariff number	85389099990

Environmental Product Compliance

CAS-No.	1314-23-4 1317-36-8 7439-92-1
REACH Candidate List Substance	Lead Lead monoxide Zirconium Oxide
RoHS Exemption	7(a) 7(c)-I 7(c)-II
SCIP notification number (Bulgaria)	1bec5928-bed4-4802-bc3f-c6a7da938b3c
SCIP notification number (Czech Republic)	be0c6abd-7f4b-4dbf-b3f4-f58e3fc68eee

Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
EAC Brjansker Zertifizierungs- stelle	TP TC 020/2011	EAC RU C-DE.AM02. B.00087/19
UL Underwriters Laboratories Inc. (ORDINARY LOCATI- ONS)	UL 508	E175199 Sec.1

Approvals for marine applications



Approval	Standard	Certificate Name
BSH Bundesamt fuer See- schifffahrt und Hydrogra- phie	-	1104
DNV DNV GL SE	DNV-CG-0339,Aug.2021	TAA0000194
PRS Polski Rejestr Statków	-	TE/2236/880590/19
RINA RINA Germany GmbH	-	ELE343521XG001

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)

Approvals for hazardous areas

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



Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 750-494

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Documentation

Manual

System Manual WAGO I/O System 750/753

V 3.1.0  
05.12.2022

pdf  
8495.90 KB

↓

System Manual Series 750/753

↓

Product Manual 3-Phase Power Measurement Module

V 1.2.0

pdf  
4656.07 KB

↓

System Description

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

pdf  
953.35 KB

↓

Overview on WAGO-I/O-SYSTEM 750 approvals

pdf  
770.48 KB

↓

Bid Text

750-494

19.02.2019

xml  
6.02 KB

↓

750-494

20.10.2017

doc  
30.50 KB

↓

ausschreiben.de 750-494

↓

Instruction Leaflet

CCC Ex (Additional information)

26.04.2023

pdf  
159.76 KB

↓

Application Notes

Application Note CoDeSys 2.3

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

24.01.2014  
11.11.2014

zip  
1629.99 KB

↓

Application Note e!COCKPIT

e!COCKPIT Application Note WagoAppPower-Measurement

2021-11-08  
06.12.2021

pdf  
930.71 KB

↓

Application note SIEMENS

WagoS7\_PowerMeasurement\_494 (a500610)

V2.1.1  
22.11.2017

zip  
3046.47 KB

↓


WagoTIA\_PowerMeasurement\_494 (a500611)

V1.0.1  
22.11.2017zip  
6461.69 KB

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CAD/CAE-Data



CAD data	
2D/3D Models 750-494	

CAE data	
EPLAN Data Portal 750-494	
WSCAD Universe 750-494	
ZUKEN Portal 750-494	

















Libraries				
e!COCKPIT libraries			Library	
e!COCKPIT Library Description WagoAppPowerMeasurement	1.7.4.0 25.05.2021	pdf 1369.41 KB	Bausteinbeschreibung für die PowerMeasurement_494_02.lib	4.1.2 23.06.2020 zip 1828.54 KB

1 Compatible Products
1.1 Optional Accessories
1.1.1 Current transformer
1.1.1.1 Current transformer terminal block



**Item No.: 2007-8873**  
Compact terminal block; for current and voltage transformers; 6,00 mm<sup>2</sup>; multicoloured

**Item No.: 2007-8875**  
Compact terminal block; for current transformer circuit; 6,00 mm<sup>2</sup>; multicoloured

1.1.1.2 Plug-in current transformer			
			
<b>Item No.: 855-1700/032-000</b> Plug-in current transformer; Primary rated current 32 A; Secondary rated current 320 mA	<b>Item No.: 855-301/100-201</b> Plug-in current transformer; Primary rated current: 100 A; Secondary rated current: 1 A; Rated power: 2.5 VA; Accuracy class: 1	<b>Item No.: 855-501/1000-1001</b> Plug-in current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	<b>Item No.: 855-801/1000-1001</b> Plug-in current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1
			
<b>Item No.: 855-301/150-501</b> Plug-in current transformer; Primary rated current: 150 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	<b>Item No.: 855-601/1500-501</b> Plug-in current transformer; Primary rated current: 1500 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	<b>Item No.: 855-301/200-501</b> Plug-in current transformer; Primary rated current: 200 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	<b>Item No.: 855-801/2000-1001</b> Plug-in current transformer; Primary rated current: 2000 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1
			
<b>Item No.: 855-301/250-501</b> Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	<b>Item No.: 855-401/250-501</b> Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	<b>Item No.: 855-1001/2500-1001</b> Plug-in current transformer; Primary rated current: 2500 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	<b>Item No.: 855-2701/035-001</b> Plug-in current transformer; Primary rated current: 35 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1
			
<b>Item No.: 855-301/400-1001</b> Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	<b>Item No.: 855-501/400-1001</b> Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	<b>Item No.: 855-401/400-501</b> Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	<b>Item No.: 855-301/050-103</b> Plug-in current transformer; Primary rated current: 50 A; Secondary rated current: 1 A; Rated power: 1.25 VA; Accuracy class: 3





1.1.3 Marking

1.1.3.1 Group marker carrier



[Item No.: 750-107](#)  
Group marker carrier

1.1.3.2 Marker

[Item No.: 2009-145/000-006](#)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue

[Item No.: 2009-145/000-007](#)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray

[Item No.: 2009-145/000-023](#)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green

[Item No.: 2009-145/000-012](#)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange

[Item No.: 2009-145/000-005](#)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red

[Item No.: 2009-145/000-024](#)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet

[Item No.: 2009-145](#)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

[Item No.: 2009-145/000-002](#)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow



[Item No.: 248-501/000-006](#)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue

[Item No.: 248-501/000-007](#)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray

[Item No.: 248-501/000-023](#)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green

[Item No.: 248-501/000-017](#)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green



[Item No.: 248-501/000-012](#)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange

[Item No.: 248-501/000-005](#)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red

[Item No.: 248-501/000-024](#)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet

[Item No.: 248-501](#)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white



[Item No.: 248-501/000-002](#)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow



1.1.3.3 Marker carrier



[Item No.: 750-103](#)  
Group marker carrier

1.1.4 Potential distribution

1.1.4.1 Current and voltage tap



[Item No.: 855-951/250-000](#)  
Current and voltage tap up to 95 mm²; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 0.5; fused

1.1.5 Power tap

## 1.1.5.1 Power tap

**Item No.: 855-8003**

Power tap; with fuse; 10 mm² (8 AWG) - 16 mm² (6 AWG); Phase

**Item No.: 855-8001**

Power tap; with fuse; 2,5 mm² (12 AWG) - 6 mm² (10 AWG); Phase

**Item No.: 855-8004**

Power tap; without fuse; 10 mm² (8 AWG) - 16 mm² (6 AWG); N-conductor

**Item No.: 855-8002**

Power tap; without fuse; 2,5 mm² (12 AWG) - 6 mm² (10 AWG); N-conductor

## 1.1.6 Shield termination

## 1.1.6.1 Shield clamping saddles

**Item No.: 790-108**

Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm

**Item No.: 790-208**

Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm

**Item No.: 790-116**

Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm

**Item No.: 790-216**

Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm

**Item No.: 790-124**

Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm

**Item No.: 790-220**

Shield clamping saddle; 30 mm wide; 6 ... 20 mm

**Item No.: 790-140**

Shield clamping saddle; diameter of compatible conductor

## 1.1.7 System enclosure

## 1.1.7.1 System enclosure

**Item No.: 850-825**

IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20

**Item No.: 850-826**

IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

**Item No.: 850-827**

IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

**Item No.: 850-828**

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

**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

**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

**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

**Item No.: 850-834**

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

**Item No.: 850-835**

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

**Item No.: 850-836**

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

**Item No.: 850-814/002-000**

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate

**Item No.: 850-815/002-000**

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate

**Item No.: 850-816/002-000**

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate

**Item No.: 850-817/002-000**

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate