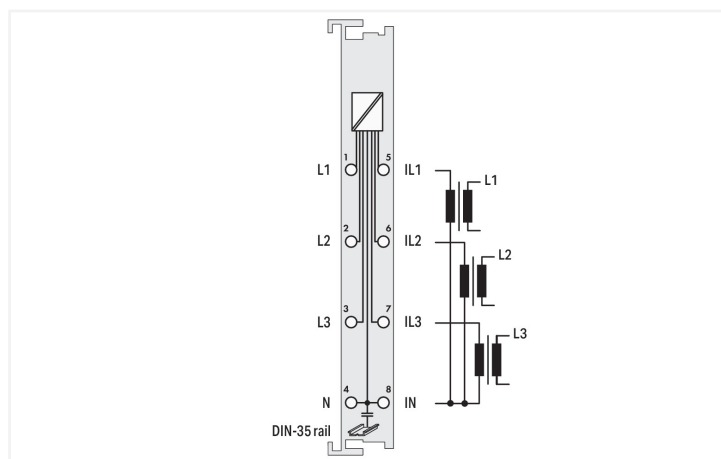
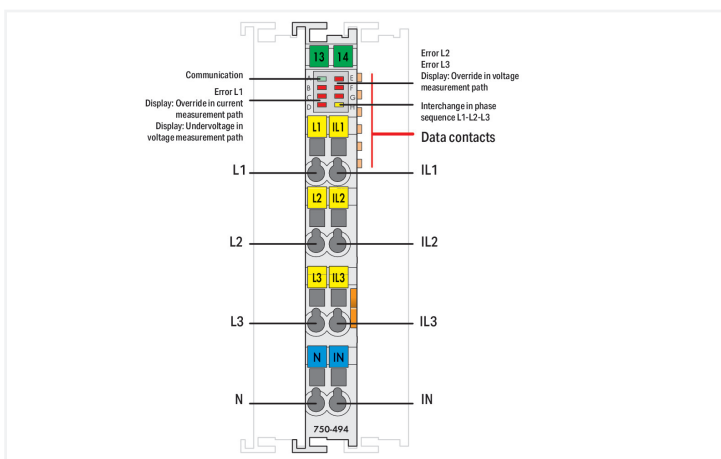


Color: ■ light gray



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 |
| Input voltage (max.) | Current Inputs: 18 VAC |
| 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.) | 5 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 % |

Technical data

| | |
|---|---|
| Measurement current (max.) | 5 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 | $U_{LN} = 277 \text{ VAC}$; $U_{LL} = 480 \text{ VAC}$ |
| 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 e!COCKPIT |
| Supply voltage (system) | 5 VDC; via data contacts |
| Current consumption (5 V system supply) | 100 mA |
| Isolation | 4 kV system/field |
| Rated impulse withstand voltage | 4 kV |
| Indicators | LED (A) green: Communication; LED (B-G) red: Error L1, Override in Current Measurement Path (display), Undervoltage in Voltage Measurement Path (display), Error L2, Error L3, Override in Voltage Measurement Path (display); LED (H) yellow: Interchange in Phase Sequence L1-L2-L3 |

Connection Data

| | |
|---------------------------------|--|
| Connection technology: I/O | 8 x CAGE CLAMP® |
| Connectable conductor materials | Copper |
| Connection type | Inputs/outputs |
| Solid conductor | 0.08 ... 2.5 mm ² / 28 ... 14 AWG |
| Fine-stranded conductor | 0.08 ... 2.5 mm ² / 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 | 0.663 MJ |
| Weight | 48.5 g |
| Conformity marking | CE |

Environmental requirements

| | |
|--|--|
| Ambient temperature (operation) | 0 ... +55 °C |
| Ambient temperature (storage) | -40 ... +85 °C |
| Protection type | IP20 |
| Pollution degree | 2 |
| Operating altitude | 0 ... 2000 m / 0 ... 6562 ft |
| Mounting position | Horizontal left, horizontal right, horizontal top, horizontal bottom, vertical top and vertical bottom |
| 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 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 (I/O System) |
| PU (SPU) | 1 pcs |
| Packaging type | Box |
| Country of origin | DE |
| GTIN | 4050821548249 |
| Customs tariff number | 85389099990 |

Product Classification

| | |
|-------------|----------------------|
| UNSPSC | 41113630 |
| eCl@ss 10.0 | 27-24-26-05 |
| eCl@ss 9.0 | 27-24-26-05 |
| ETIM 9.0 | EC001596 |
| ETIM 10.0 | EC001596 |
| ECCN | NO US CLASSIFICATION |

Environmental Product Compliance

| | |
|---|---|
| CAS-No. | 1303-86-2 1317-36-8 7439-92-1 |
| REACH Candidate List Substance | Diboron trioxide Lead Lead monoxide |
| RoHS Compliance Status | Compliant,With Exemption |
| RoHS Exemption | 6(c) 7(a) 7(c)-I 7(c)-II |
| SCIP notification number (Bulgaria) | 4bed68c7-6a25-4798-b488-2fd88c66f5fd |
| SCIP notification number (Czech Republic) | 96a72ec3-b906-4f49-9abf-72aa9f175e09 |

Approvals / Certificates

General approvals



| Approval | Standard | Certificate Name |
|---|----------------|------------------|
| EAC GZO Almaty Standart | TP TC 020/2011 | EAC CoC 03083 |
| UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS) | - | E175199 |

Approvals for marine applications



| Approval | Standard | Certificate Name |
|---|----------|------------------|
| BSH Bundesamt fuer Seeschifffahrt und Hydrographie | - | 1104 |
| RINA RINA Germany GmbH | - | ELE343521XG001 |

Approvals for hazardous areas



| Approval | Standard | Certificate Name |
|--|-------------|--|
| ATEX TUEV Nord Cert GmbH | EN 60079-0 | TUEV14ATEX148929X (II 3 G Ex ec IIC T4 Gc) |
| CCCEX CQST/CNEX | CNCA-C23-01 | 2020312310000213 (Ex ec IIC T4 Gc) |
| 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 | TÜV 12.1297 X |
| UKEX WAGO GmbH & Co. KG | EN 60079-0 | UKCA_WA GO22UKEX003X_ec |
| UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS) | UL 121201 | E198726 |

Downloads

Environmental Product Compliance

| Compliance Search | |
|---|-------------------|
| Environmental Product Compliance 750-494/000-001 | ↓ |

Documentation

| Manual | | |
|---|-----------------------|--|
| System Manual Series 750/753 | | ↓ |
| Product Manual 3-Phase Power Measurement Module | V 1.5.0 05.09.2024 | pdf 4332.66 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 | | | |
|-----------------|------------|-----------------|-------------------|
| 750-494/000-001 | 19.02.2019 | xml 6.03 KB | ↓ |
| 750-494/000-001 | 20.10.2017 | doc 30.50 KB | ↓ |

| Instruction Leaflet | | | |
|---------------------------------|------------|------------------|-------------------|
| CCC Ex (Additional information) | 26.04.2023 | pdf 159.76 KB | ↓ |

Application Notes

| Application Note e!COCKPIT | | | |
|---|--------------------------|------------------|-------------------|
| e!COCKPIT Application Note WagoAppPower-Measurement | 2021-11-08 06.12.2021 | pdf 930.71 KB | ↓ |

CAD/CAE-Data

| CAD data | |
|---------------------------------|-------------------|
| 2D/3D Models 750-494/000-001 | ↓ |

| CAE data | |
|--------------------------------------|-------------------|
| EPLAN Data Portal 750-494/000-001 | ↓ |
| WSCAD Universe 750-494/000-001 | ↓ |
| ZUKEN Portal 750-494/000-001 | ↓ |

Runtime Software

| Firmware | | | |
|--------------------------------------|--------------------|------------------|-------------------|
| 0750-0494, 3-Phasen-Leistungsmessung | V 06 07.06.2022 | zip 179.63 KB | ↓ |

Libraries

| Library | | | |
|--|---------------------|-------------------|-------------------|
| 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 mm²; multicoloured

Item No.: 2007-8875
Compact terminal block; for current transformer circuit; 6,00 mm²; multicoloured

1.1.1.2 Plug-in current transformer



Item No.: 855-305/300-501
 Plug-in current transformer; Primary rated current 300 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1



Item No.: 855-405/750-501
 Plug-in current transformer; Primary rated current 750 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1



Item No.: 855-305/100-201
 Plug-in current transformer; Primary rated current: 100 A; Secondary rated current: 5 A; Rated power: 2.5 VA; Accuracy class: 1



Item No.: 855-505/1000-1001
 Plug-in current transformer; Primary rated current: 1000 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1



Item No.: 855-305/150-501
 Plug-in current transformer; Primary rated current: 150 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1



Item No.: 855-605/1500-501
 Plug-in current transformer; Primary rated current: 1500 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1



Item No.: 855-305/200-501
 Plug-in current transformer; Primary rated current: 200 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1



Item No.: 855-805/2000-1001
 Plug-in current transformer; Primary rated current: 2000 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1



Item No.: 855-305/250-501
 Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1



Item No.: 855-405/250-501
 Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1



Item No.: 855-1005/2500-1001
 Plug-in current transformer; Primary rated current: 2500 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1



Item No.: 855-305/400-1001
 Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1



Item No.: 855-505/400-1001
 Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1



Item No.: 855-405/400-501
 Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1



Item No.: 855-305/050-103
 Plug-in current transformer; Primary rated current: 50 A; Secondary rated current: 5 A; Rated power: 1.25 VA; Accuracy class: 3



Item No.: 855-305/060-101
 Plug-in current transformer; Primary rated current: 60 A; Secondary rated current: 5 A; Rated power: 1.25 VA; Accuracy class: 1



Item No.: 855-305/600-1001
 Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1



Item No.: 855-505/600-1001
 Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1



Item No.: 855-305/075-201
 Plug-in current transformer; Primary rated current: 75 A; Secondary rated current: 5 A; Rated power: 2.5 VA; Accuracy class: 1



Item No.: 855-505/800-1001
 Plug-in current transformer; Primary rated current: 800 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1

1.1.1.3 Split-core current transformer



Item No.: 855-5005/1000-000
 Split-core current transformer; Primary rated current: 1000 A; Secondary rated current: 5 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 3 m



Item No.: 855-5105/1000-000
 Split-core current transformer; Primary rated current: 1000 A; Secondary rated current: 5 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 3 m



Item No.: 855-4005/150-101
 Split-core current transformer; Primary rated current: 150 A; Secondary rated current: 5 A; Rated power: 1 VA; Accuracy class: 1; Cable length: 0.5 m



Item No.: 855-4105/250-101
 Split-core current transformer; Primary rated current: 250 A; Secondary rated current: 5 A; Rated power: 1 VA; Accuracy class: 1; Cable length: 0.5 m



Item No.: 855-5005/400-001
 Split-core current transformer; Primary rated current: 400 A; Secondary rated current: 5 A; Rated power: 0.5 VA; Accuracy class: 1; Cable length: 3 m



Item No.: 855-4105/400-101
 Split-core current transformer; Primary rated current: 400 A; Secondary rated current: 5 A; Rated power: 1 VA; Accuracy class: 1; Cable length: 0.5 m



Item No.: 855-5005/600-000
 Split-core current transformer; Primary rated current: 600 A; Secondary rated current: 5 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 3 m

1.1.2 DIN-rail

1.1.2.1 Mounting accessories



Item No.: 210-196
 Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored



Item No.: 210-198
 Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored



Item No.: 210-197
 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored



Item No.: 210-114
 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored

1.1.2.1 Mounting accessories



Item No.: 210-118

Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored



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; silver-colored



Item No.: 210-113

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

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 Power tap

1.1.4.1 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

1.1.5 Shield termination

1.1.5.1 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

1.1.6 System enclosure

1.1.6.1 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