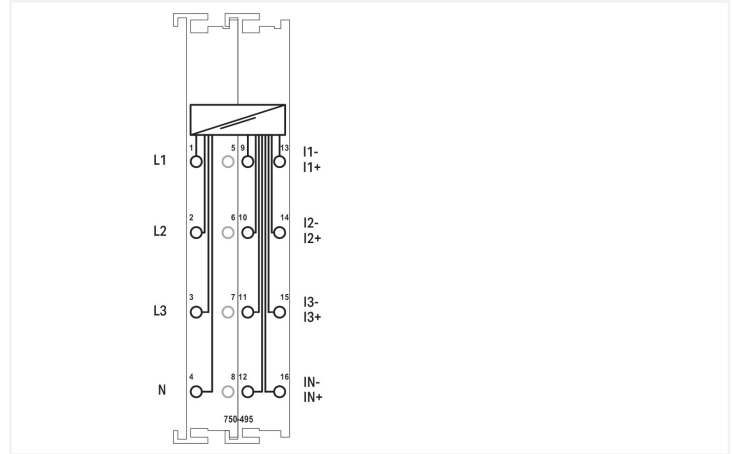
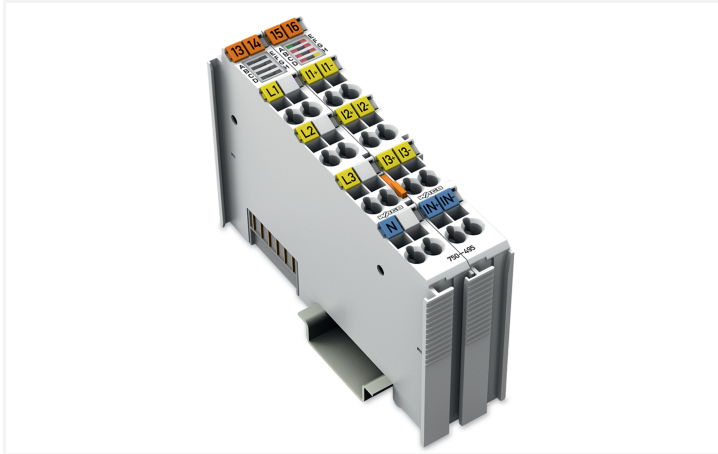
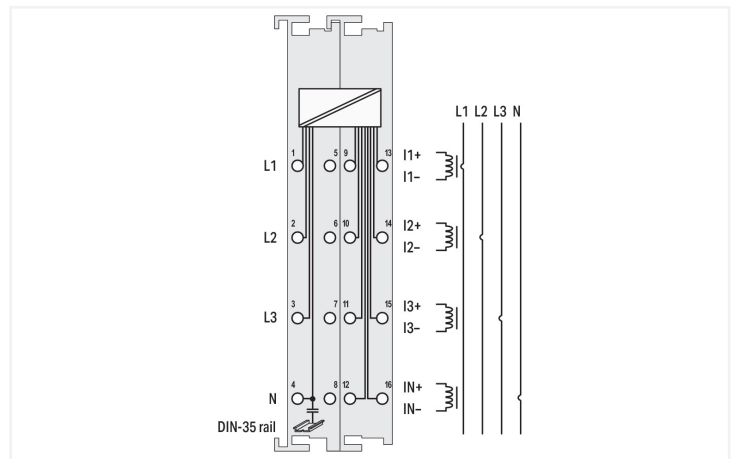
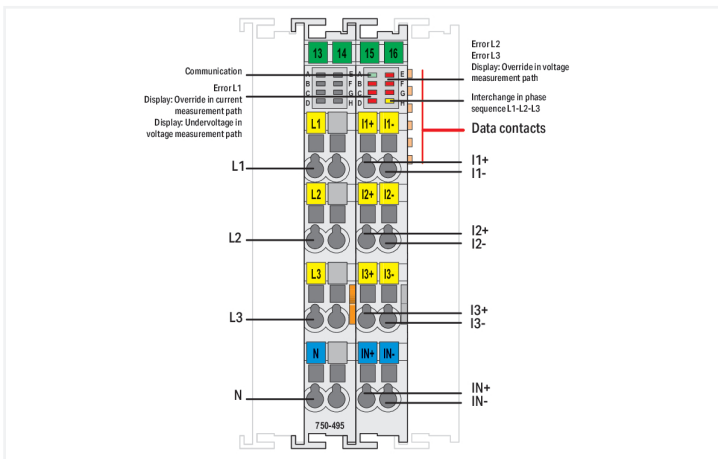


**Data Sheet | Item Number: 750-495**  
**3-Phase Power Measurement; 690 VAC, 1 A**

<https://www.wago.com/750-495>



Color: ■ light gray



The 750-495 3-Phase Power Measurement Module allows measurement of 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 I1, I2, I3 and IN (two clamping points each +,-) via current transformers or via Rogowski coils for the 750-495/000-002 Module.

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. Insulation failures can be detected and prevented via current measurement performed in the neutral conductor. 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	7 (3 voltage measurement inputs, 4 differential current measurement inputs)
Signal type	Power measurement
Signal form	Sinusoidal signals (taking the cutoff frequency into account)
Resolution [bit]	24 bits
Data width	2 x 128-bit data; 2 x 64-bit control/status
Voltage path input resistance (typ.)	1429 kΩ
Current path input resistance (typ.)	22 mΩ
Reference for measurement error	AC current/voltage
Measurement error (reference temperature)	23 °C
Measurement error, deviation (max.) from the upper-range value	0.5 %

Technical data	
Measurement current (max.)	1 A
Measurement cycle time	Adjustable for arithmetic mean value, Min_Max_Values
Frequency range (mains frequency)	50/60 Hz
Frequency range (harmonics analysis)	0 ... 3300 Hz
Limit frequency	15.9 kHz
Permissible common mains supply systems	Three-phase, four-wire system: max. 277/480 VAC; Three-phase, three-wire system: max. 600 VAC (UL)
Note on common mains supply systems	U <sub>LL</sub> up to 690V is possible under special conditions (see manual).
Upper-range value for the measurement accuracy	400/690 V
Calculated values	Line-to-line voltage, power output, energy, power factors, mains frequency, harmonic analysis (up to the 41st harmonic), THD
Measurement method	True RMS measurement
Supply voltage (system)	5 VDC; via data contacts
Current consumption (system supply)	100 mA
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

### Safety and protection

Measurement category per EN/UL 61010-2-030	CAT III
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#### Test voltage

Test voltage	3.51 kVAC, 50/60 Hz, 1 min.
Rated impulse withstand voltage	System/field side: 5.0 kV (EN 60870-2-1 / Class VW3) 6.4 kV (EN/UL 61010-1)

#### Insulation coordination per EN/UL 61010-2-201 with N connection

System voltage	≤ 300 V
Note on system voltage	The system voltage corresponds to the line-to-neutral voltage derived from conventional mains power supply systems.
Overvoltage category	III
Insulation type	Reinforced insulation

#### Insulation coordination per EN/UL 61010-2-201 without N connection

System voltage	≤ 600 V
Note on system voltage	To ensure safe insulation, the module's N connector must not be connected. The system voltage corresponds to the line conductor/neutral conductor voltage, which was derived from standard power supply systems
Overvoltage category	III
Insulation type	Double isolation (basic isolation and supplementary isolation by impedance/current measurement transformer) Safe isolation from the adjacent SELV/PELV modules must be ensured. The product manual contains the types of isolation to adjacent modules in section "Isolation to Adjacent I/O Modules per EN/UL 61010 2-201." Without double or reinforced insulation, the 750-495/000-00x Power Measurement Module must not be placed directly next to SELV/PELV modules. Under such conditions, the 750-616 Distance Module must be used.

### Connection Data

Connection technology: I/O	12 x CAGE CLAMP®
Connectable conductor materials	Copper
Connection type	Inputs/outputs
Solid conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inches
Note (conductor cross-section)	Solid conductor: 20 ... 14 AWG (UL); Fine-stranded conductor: 20 ... 16 AWG (UL) These values refer exclusively to the mechanical connection capacity of the clamping points. When the applications/devices are operated in locations covered by UL, only solid conductor with 20 ... 14 AWG and fine-stranded conductor with 20 ... 16 AWG are permitted.

### Physical data

Width	24 mm / 0.945 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
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### Material data

Color	light gray
Housing material	Polycarbonate; polyamide 6.6
Fire load	1.679 MJ
Weight	90.7 g
Conformity marking	CE

### Environmental requirements

Ambient temperature (operation)	0 ... +55 °C
Ambient temperature (storage)	-40 ... +85 °C
Protection type	IP20
Pollution degree	2 per EN 60664-1
Operating altitude	0 ... 2000 m / 0 ... 6562 ft
Mounting position	Horizontal left, horizontal up, 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 <sub>2</sub> S contaminant concentration at a relative humidity 75 %	10 ppm
Permissible SO <sub>2</sub> 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	4050821548256
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 (Austria)	73347190-1d14-4d53-b893-45987f131be2
SCIP notification number (Belgium)	b2a5d208-0d6f-4bdc-a394-413f407d46e2
SCIP notification number (Bulgaria)	8f76372e-a361-4332-b84a-e0cb7d64c765
SCIP notification number (Czech Republic)	83fe7f37-f240-420d-a287-d608a03f74cc
SCIP notification number (Denmark)	25a0dad3-1933-4610-be29-18db7583c1f6
SCIP notification number (Finland)	ef73bb0b-867e-497d-9f03-e7004dddab68
SCIP notification number (France)	f0f0014b-ab50-4ff8-b1d5-1b59224e58de
SCIP notification number (Germany)	19c14cd4-2f50-40a7-abc7-fc5d6360de54
SCIP notification number (Hungary)	ce6f7e91-8dc5-454c-85ba-1bba4895e8dd
SCIP notification number (Italy)	44eaf31b-582a-4fca-a5da-e77f4dfb7ef8
SCIP notification number (Netherlands)	9b65d4eb-385b-4784-8729-f96a0e24ffd8
SCIP notification number (Poland)	bcf60c77-e84b-4feb-aef4-71b0d184405f
SCIP notification number (Romania)	a3ff47f5-eb1b-4722-bec7-b95d0c19a5fb
SCIP notification number (Sweden)	a70ee5c9-ffb6-4f35-a7e2-17d5cf4a0240

**Approvals / Certificates**

**General approvals**



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 004/2011	EAC CoC 03080
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03083
KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-AIM750

**General approvals**

UL Underwriters Laboratories Inc. (ORDINARY LOCA- TIONS)	-	E175199
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**Declarations of conformity and manufacturer's declarations**

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

**Approvals for marine applications**



Approval	Standard	Certificate Name
BSH Bundesamt fuer Seeschiff- fahrt und Hydrographie	-	1104
RINA RINA Germany GmbH	-	ELE343521XG001

**Approvals for hazardous areas**



Approval	Standard	Certificate Name
UL Underwriters Laboratories Inc. (HAZARDOUS LOCA- TIONS)	UL 121201	E198726

**Downloads**

**Environmental Product Compliance**

**Compliance Search**

Environmental Product Compliance 750-495	<a href="#">↓</a>
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**Documentation**

**Manual**

System Manual Series 750/753			<a href="#">↓</a>
Product Manual 3-Phase Power Measurement Module	V 1.3.0 06.04.2023	pdf 18495.39 KB	<a href="#">↓</a>

**System Description**

750/753 Series I/O-Sys- tem – General Product Information	pdf 953.35 KB	<a href="#">↓</a>
Overview on WAGO-I/O- SYSTEM 750 approvals	pdf 770.48 KB	<a href="#">↓</a>

**Bid Text**

750-495	20.10.2017	doc 31.00 KB	<a href="#">↓</a>
750-495	19.02.2019	xml 6.31 KB	<a href="#">↓</a>
ausschreiben.de 750-495			<a href="#">↓</a>

## Application Notes

Application Note CoDeSys 2.3			
3-Phase power measurement with CAN coupler on a perspecto control panel (a500810)	1.0.0 01.07.2015	zip 4472.13 KB	<a href="#">↓</a>
Application Note for the 750-495 3-Phase Power Measurement Module	24.01.2014 24.01.2014	zip 1806.18 KB	<a href="#">↓</a>

Application note SIEMENS			
Using power measurement module 750-495 with TIA (a500671)	1.0.0 22.11.2017	zip 21123.90 KB	<a href="#">↓</a>
WagoS7_PowerMeasurement_495 (a500670)	1.2.1 22.11.2017	zip 5580.86 KB	<a href="#">↓</a>

## CAD/CAE-Data

CAD data	
2D/3D Models 750-495	<a href="#">↓</a>

CAE data	
EPLAN Data Portal 750-495	<a href="#">↓</a>
WSCAD Universe 750-495	<a href="#">↓</a>
ZUKEN Portal 750-495	<a href="#">↓</a>

## Runtime Software

Firmware			
0750-0495, 3-Phasen-Leistungsmessung	V 03 07.06.2022	zip 174.07 KB	<a href="#">↓</a>

## Libraries

Library			
Function block description PowerMeasurement_495_02.lib	2.1.0 23.01.2017	zip 1579.43 KB	<a href="#">↓</a>

## 1 Compatible Products

### 1.1 Optional Accessories

#### 1.1.1 Current transformer

##### 1.1.1.1 Current transformer terminal block



**Item No.: 2007-8874**

Compact terminal block; for current and voltage transformers; 6,00 mm<sup>2</sup>; multicoloured

**Item No.: 2007-8877**

Compact terminal block; for current transformer circuit; 6,00 mm<sup>2</sup>; multicoloured



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



**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 Potential distribution

#### 1.1.4.1 Current and voltage tap



**Item No.: 855-951/250-000**  
Current and voltage tap up to 95 mm<sup>2</sup>; 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 mm<sup>2</sup> (8 AWG) - 16 mm<sup>2</sup> (6 AWG); Phase



**Item No.: 855-8001**  
Power tap; with fuse; 2,5 mm<sup>2</sup> (12 AWG) - 6 mm<sup>2</sup> (10 AWG); Phase



**Item No.: 855-8004**  
Power tap; without fuse; 10 mm<sup>2</sup> (8 AWG) - 16 mm<sup>2</sup> (6 AWG); N-conductor



**Item No.: 855-8002**  
Power tap; without fuse; 2,5 mm<sup>2</sup> (12 AWG) - 6 mm<sup>2</sup> (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); Wx-HxD (160x100x160 mm); 9 x M12, 4 x M20



**Item No.: 850-826**  
IP65 enclosure; Aluminium (RAL 7032); Wx-HxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip



**Item No.: 850-827**  
IP65 enclosure; Aluminium (RAL 7032); Wx-HxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip



**Item No.: 850-828**  
IP65 enclosure; Aluminium (RAL 7032); Wx-HxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip



**Item No.: 850-826/002-000**  
IP65 enclosure; Aluminium (RAL 7035); Wx-HxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip



**Item No.: 850-827/002-000**  
IP65 enclosure; Aluminium (RAL 7035); Wx-HxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip



**Item No.: 850-828/002-000**  
IP65 enclosure; Aluminium (RAL 7035); Wx-HxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip



**Item No.: 850-834**  
IP65 enclosure; Polyester (RAL 7032); Wx-HxD (164x100x164 mm); 9 x M12, 4 x M20

1.1.7.1 System enclosure



**Item No.: 850-835**

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



**Item No.: 850-836**

IP65 enclosure; Polyester (RAL 7032); Wx-HxD (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); Wx-HxD (200x120x200 mm); without flange plate



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

IP65 enclosure; Sheet steel (RAL 7035); Wx-HxD (300x120x200 mm); without flange plate



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

IP65 enclosure; Sheet steel (RAL 7035); Wx-HxD (400x120x200 mm); without flange plate



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

IP65 enclosure; Sheet steel (RAL 7035); Wx-HxD (600x120x200 mm); without flange plate