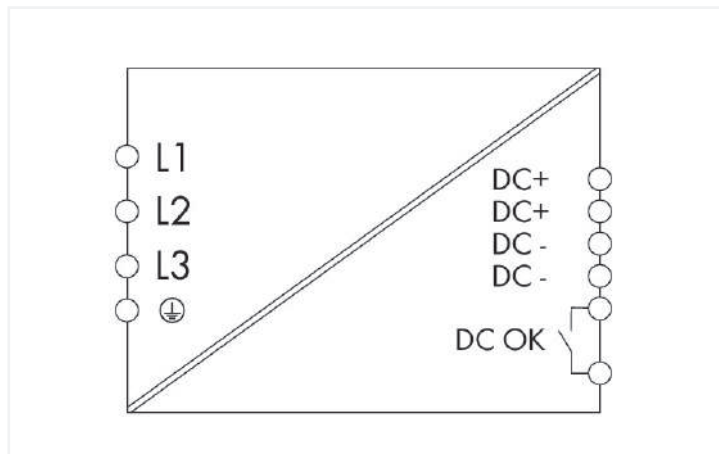


## Data Sheet | Item Number: 787-1642

Switched-mode power supply; Classic; 3-phase; 24 VDC output voltage; 20 A output current; TopBoost; DC OK contact

<https://www.wago.com/787-1642>



### Features:

- Switched-mode power supply with TopBoost, enabling secondary-side protection via circuit breakers
- Natural convection cooling when horizontally mounted
- Encapsulated for use in control cabinets
- DC OK contact
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per UL 60950-1; PELV per EN 60204

### Technical data

#### Input

Phases	2 / 3
Nominal input voltage $U_{i, \text{nom}}$	(2 / 3) x AC 400 ... 500 V
Input voltage range	(2 / 3) x AC 320 ... 575 V; DC 450 ... 800 V
Nominal mains frequency range	47 ... 63 Hz; 0 Hz
Input current $I_i$	$\leq 3 \times 1.21 \text{ A}$ (400 VAC); $\leq 3 \times 1.03 \text{ A}$ (500 VAC)
Discharge current	$\leq 1 \text{ mA}$
Inrush current	$\leq 30 \text{ A}$ (NTC)
Power factor correction (PFC)	passive
Mains failure hold-up time	$\geq 25 \text{ ms}$ (500 VAC); $\geq 15 \text{ ms}$ (400 VAC)

#### Output

Nominal output voltage $U_{o, \text{nom}}$	DC 24 V (SELV)
Output voltage range	DC 23 ... 28.5 V (adjustable)
Default setting	DC 24 V
Nominal output current $I_{o, \text{nom}}$	20 A (24 VDC)
Nominal output power	480 W
Deviation	$\leq 1 \%$
Residual ripple	$\leq 15 \text{ mV}$ (peak-to-peak)
Current limitation	$1.1 \times I_{o, \text{nom}}$ (typ.)
Overload behavior	Constant current

### Signaling and communication

Signaling	1 x LED DC OK (green) 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Operation status indicator	Green LED ( $U_o$ )

### Efficiency/power losses

Power loss $P_I$	$\leq 5.8 \text{ W}$ ; $\leq 42.8 \text{ W}$ (400 VAC; nominal load)
Power loss (max.) $P_{I(\text{max})}$	47.6 W (500 VAC / 24 VDC; 20 A)
Efficiency (typ.)	92 %

### Circuit protection

Internal fuse	No
Backup fusing (required)	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C, 20 A (max.) Alternative: motor circuit breaker An external DC fuse is required for the DC input voltage.

### Safety and protection

Isolation voltage (pri.-sec.)	DC 4.242 kV
Isolation voltage (pri.-PE)	DC 2.2 kV
Isolation voltage (sec.-PE)	DC 0.7 kV
Protection class	I
Protection type	IP20; per EN 60529
Resistance to reverse feed	≤ DC 35 V
Oversvoltage category	II
Pollution degree	2
Transient suppression (primary)	Varistor
Oversvoltage protection; secondary	Internal protective circuit ≤ 40 VDC (in the event of a fault)
Short-circuit-protected	Yes
Open-circuit-proof	Yes
Parallel operation	Yes
Series operation	Yes
MTBF	> 500,000 h (per IEC 61709)

### Connection data

Connection type 1	Input/signaling
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 721 Series
Solid conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inches
Connection type 2	Output
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	WAGO 831 Series
Solid conductor 2	0.5 ... 10 mm <sup>2</sup> / 20 ... 8 AWG
Fine-stranded conductor 2	0.5 ... 10 mm <sup>2</sup> / 20 ... 8 AWG
Strip length 2	13 ... 15 mm / 0.51 ... 0.59 inches

### Physical data

Width	80 mm / 3.15 inches
Height	127 mm / 5 inches
Depth from upper-edge of DIN-rail	180 mm / 7.087 inches

### Mechanical data

Mounting type	DIN-35 rail
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### Material data

Fire load	0.914 MJ
Weight	1623 g

### Environmental requirements

Ambient temperature (operation)	-25 ... +70 °C (Device starts at -40 °C (type-tested))
Ambient temperature (storage)	-25 ... +85 °C
Relative humidity	5 ... 96 % (no condensation permissible)
Derating	-2.5 %/K (> 55 °C)

### Standards and specifications

Conformity marking	CE
Standards/specifications	EN 61010-1 EN 61010-2-201 EN 61204-3 UL 60950-1 UL 508 DNV SEMI F47

### Commercial data

eCl@ss 10.0	27-04-07-01
eCl@ss 9.0	27-04-07-01
ETIM 8.0	EC002540
ETIM 7.0	EC002540
PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
GTIN	4055143259170
Customs tariff number	85044083900

### Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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### Approvals / Certificates

#### General approvals



Approval	Standard	Certificate Name
EAC Brjansker Zertifizierungs- stelle	TP TC 004/2011, TP TC 020/2011	EAC RU C-DE.AM02. B.00089_19
UL Underwriters Laboratories Inc.	UL 60950-1	E255815
UL Underwriters Laboratories Inc.	UL 508	E255817

#### Approvals for marine applications



Approval	Standard	Certificate Name
DNV DNV Germany GmbH	DNV-CG-0339, Aug. 2021	TAA00000KT

### Downloads

#### Environmental Product Compliance

Compliance Search			
Environmental Product Compliance 787-1642			↓

## Documentation

Bid Text			
787-1642	04.07.2019	xml 7.37 KB	↓
787-1642	13.06.2019	docx 21.61 KB	↓

Instruction Leaflet	
Primär getaktete Stromversorgungen CLASSIC	pdf 166.24 KB ↓

## CAD/CAE-Data

CAD data	
2D/3D Models 787-1642	↓

CAE data	
EPLAN Data Portal 787-1642	↓
WSCAD Universe 787-1642	↓
ZUKEN Portal 787-1642	↓

## Engineering-Software

Configuration and Commissioning Software			
WAGO Line Length Calculation	1.3.5 09.12.2019	exe 329.50 KB	↓

## 1 Compatible Products


### 1.1 Optional Accessories

#### 1.1.1 Ferrule

##### 1.1.1.1 Ferrule






<p><a href="#">Item No.: 216-301</a> Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow</p>	<p><a href="#">Item No.: 216-321</a> Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow</p>	<p><a href="#">Item No.: 216-302</a> Ferrule; Sleeve for 0.34 mm<sup>2</sup> / 22 AWG; insulated; electro-tin plated; light turquoise</p>	<p><a href="#">Item No.: 216-322</a> Ferrule; Sleeve for 0.34 mm<sup>2</sup> / 22 AWG; insulated; electro-tin plated; light turquoise</p>
<p><a href="#">Item No.: 216-241</a> Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white</p>	<p><a href="#">Item No.: 216-201</a> Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; white</p>	<p><a href="#">Item No.: 216-221</a> Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; white</p>	<p><a href="#">Item No.: 216-242</a> Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray</p>
<p><a href="#">Item No.: 216-262</a> Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray</p>	<p><a href="#">Item No.: 216-202</a> Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray</p>	<p><a href="#">Item No.: 216-222</a> Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray</p>	<p><a href="#">Item No.: 216-243</a> Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red</p>

1.1.1.1 Ferrule




 <b>Item No.: 216-263</b> Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red	 <b>Item No.: 216-203</b> Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated; red	 <b>Item No.: 216-223</b> Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated; red	 <b>Item No.: 216-204</b> Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated; black
 <b>Item No.: 216-224</b> Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated; black	 <b>Item No.: 216-244</b> Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black	 <b>Item No.: 216-264</b> Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black	 <b>Item No.: 216-284</b> Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black
 <b>Item No.: 216-205</b> Ferrule; Sleeve for 2.08 mm <sup>2</sup> / AWG 14; insulated; electro-tin plated; yellow	 <b>Item No.: 216-206</b> Ferrule; Sleeve for 2.5 mm <sup>2</sup> / AWG 14; insulated; electro-tin plated; blue	 <b>Item No.: 216-246</b> Ferrule; Sleeve for 2.5 mm <sup>2</sup> / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue	 <b>Item No.: 216-266</b> Ferrule; Sleeve for 2.5 mm <sup>2</sup> / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue
 <b>Item No.: 216-286</b> Ferrule; Sleeve for 2.5 mm <sup>2</sup> / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue	 <b>Item No.: 216-267</b> Ferrule; Sleeve for 4 mm <sup>2</sup> / AWG 12; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray	 <b>Item No.: 216-287</b> Ferrule; Sleeve for 4 mm <sup>2</sup> / AWG 12; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray	 <b>Item No.: 216-207</b> Ferrule; Sleeve for 4 mm <sup>2</sup> / AWG 12; insulated; electro-tin plated; gray
 <b>Item No.: 216-208</b> Ferrule; Sleeve for 6 mm <sup>2</sup> / AWG 10; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; yellow	 <b>Item No.: 216-288</b> Ferrule; Sleeve for 6 mm <sup>2</sup> / AWG 10; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; yellow		

1.1.2 Marking

1.1.2.1 Marker

 <b>Item No.: 2009-145</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	 <b>Item No.: 248-501</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white	 <b>Item No.: 793-5501</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white	 <b>Item No.: 793-501</b> WMB marking card; as card; not stretchable; plain; snap-on type; white
 <b>Item No.: 2009-115</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white			

1.1.2.2 Marking strip

 <b>Item No.: 2009-110</b> Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white	 <b>Item No.: 210-831</b> Marking strips; on reel; 2.3 mm wide; plain; Self-adhesive; white	 <b>Item No.: 210-832</b> Marking strips; on reel; 3 mm wide; plain; Self-adhesive; white
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1.1.3 Mounting adapter

### 1.1.3.1 DIN-rail adapter



**Item No.: 787-897/000-010**

Carrier rail adapter made of zinc die-cast; horizontal mounting of 787-16xx (TS35)

### 1.1.4 Tool

#### 1.1.4.1 Operating tool



**Item No.: 210-720**

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured



**Item No.: 210-721**

Operating tool; Blade: 5.5 x 0.8 mm; with a partially insulated shaft; multicoloured



**Item No.: 210-769**

SCREWDRIVER; green