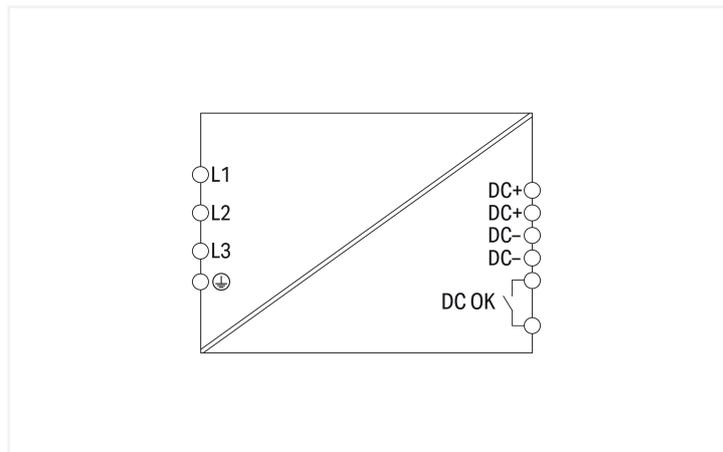


# Data Sheet | Item Number: 787-1642

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 400 ... 500 VAC
Input voltage range	(2 / 3) x 320 ... 575 VAC; 450 ... 800 VDC
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 $U_{o\text{nom}}$	24 VDC (SELV)
Output voltage range	23 ... 28.5 VDC (adjustable)
Default Setting	24 VDC
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 DC OK LED (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 $P_1$	$\leq 5.8 \text{ W}$ ; $\leq 42.8 \text{ W}$ (400 VAC; nominal load)
Power loss (max.) $P_{1(\text{max.})}$	47.6 W (500 VAC / 24 VDC; 20 A)
Efficiency (typ.)	92 %

### Circuit Protection

Internal fuse	No
Pre-fuse (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.)	4.242 kVDC
Isolation voltage (pri.-PE)	2.2 kVDC
Isolation voltage (sec.-PE)	0.7 kVDC
Protection class	I
Protection type	IP20; per EN 60529
Resistance to reverse feed	≤ 35 VDC
Overvoltage category	II
Pollution degree	2
Transient suppression (primary)	Varistor
Overvoltage 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 1

Connection type	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 2

Connection type	Output
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 831 Series
Solid conductor	0.5 ... 10 mm <sup>2</sup> / 20 ... 8 AWG
Fine-stranded conductor	0.5 ... 10 mm <sup>2</sup> / 20 ... 8 AWG
Strip length	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

PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
GTIN	4055143259170
Customs tariff number	85044083900

### Product Classification

UNSPSC	39121004
eCl@ss 10.0	27-04-07-01
eCl@ss 9.0	27-04-07-01
ETIM 9.0	EC002540
ETIM 10.0	EC002540
ECCN	NO US CLASSIFICATION

### Environmental Product Compliance

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

#### General approvals



Approval	Standard	Certificate Name
UL Underwriters Laboratories Inc.	UL 508	E255817
UR Underwriters Laboratories Inc.	UL 60950-1	E255815

#### Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-
MFD for SEMI F47 WAGO GmbH & Co. KG	-	-

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	↓
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Documentation

Bid Text

Bid Text	Date	File Type	Size	Action
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	↓
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CAD/CAE-Data

CAD data

2D/3D Models 787-1642	↓
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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	↓
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## 1 Compatible Products

### 1.1 Optional Accessories

#### 1.1.1 Marking

##### 1.1.1.1 Marker



**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.: 248-501**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white



**Item No.: 793-5501**

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white



**Item No.: 793-501**

WMB marking card; as card; not stretchable; plain; snap-on type; white



**Item No.: 2009-115**

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

##### 1.1.1.2 Marking strip



**Item No.: 2009-110**

Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white



**Item No.: 210-831**

Marking strips; on reel; 2.3 mm wide; plain; Self-adhesive; white



**Item No.: 210-832**

Marking strips; on reel; 3 mm wide; plain; Self-adhesive; white

### 1.1.2 Mounting adapter

#### 1.1.2.1 DIN-rail adapter



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

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

### 1.1.3 Tool

#### 1.1.3.1 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