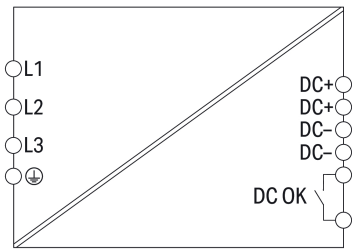
Data Sheet | Item Number: 787-1644

Switched-mode power supply; Classic; 3-phase; 24 VDC output voltage; 40 A output current; TopBoost; DC OK contact

https://www.wago.com/787-1644





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 $U_{i\,nom}$	(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	≤ 3 x 2.15 A (400 VAC); ≤ 3 x 1.82 A (500 VAC)
Discharge current	≤ 1 mA
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 25 ms (500 VAC); ≥ 15 ms (400 VAC)

Output

Nominal output voltage $U_{o\,nom}$	24 VDC (SELV)
Output voltage range	23 … 28.5 VDC (adjustable)
Default Setting	24 VDC
Nominal output current $I_{o\,nom}$	40 A (24 VDC)
Nominal output power	960 W
Deviation	≤ 1 %
Residual ripple	≤ 30 mV (peak-to-peak)
Current limitation	1.1 x $I_{o\,nom}$ (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_l	≤ 4.2 W; ≤ 83.9 W (400 VAC; nominal load)
Power loss (max.) $P_{l\,(max.)}$	83.9 W (500 VAC / 24 VDC; 40 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.

Continued on next page

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 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 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 mm² / 20 … 8 AWG
Fine-stranded conductor	0.5 … 10 mm² / 20 … 8 AWG
Strip length	13 … 15 mm / 0.51 … 0.59 inches

Physical data

Width	126 mm / 4.96 inches
Height	127 mm / 5 inches
Depth from upper-edge of DIN-rail	198 mm / 7.795 inches

Mechanical data

Mounting type	DIN-35 rail

Material data

Fire load	0.82 MJ
Weight	2800 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)

Continued on next page

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	PL
GTIN	4055143259187
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

Approvals / Certificates

General approvals

Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 004/2011	EAC CoC 03078
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03081
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 Conformity WAGO GmbH & Co. KG	-	-
MFD for SEMI F47 WAGO GmbH & Co. KG	-	-
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Continued on next page

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 787-1644

Documentation

Bid Text

787-1644	04.07.2019	xml 7.36 KB
787-1644	13.06.2019	docx 21.63 KB

Instruction Leaflet

Primär getaktete Stromversorgungen CLASSIC	pdf 166.24 KB

CAD/CAE-Data

CAD data

2D/3D Models 787-1644

CAE data

EPLAN Data Portal 787-1644

WSCAD Universe 787-1644

ZUKEN Portal 787-1644

Engineering-Software

Configuration and Commissioning Software

WAGO Line Length Calculation	1.3.5 09.12.2019	exe 329.50 KB

Continued on next page

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.: 210-831
Marking strips; 25 m on roll; 2.3 mm wide; plain; Self-adhesive; white



Item No.: 210-832
Marking strips; 25 m on roll; 3 mm wide; plain; Self-adhesive; white



Item No.: 2009-110
Marking strips; for Smart Printer; 50 m on roll; not stretchable; plain; snap-on type; 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