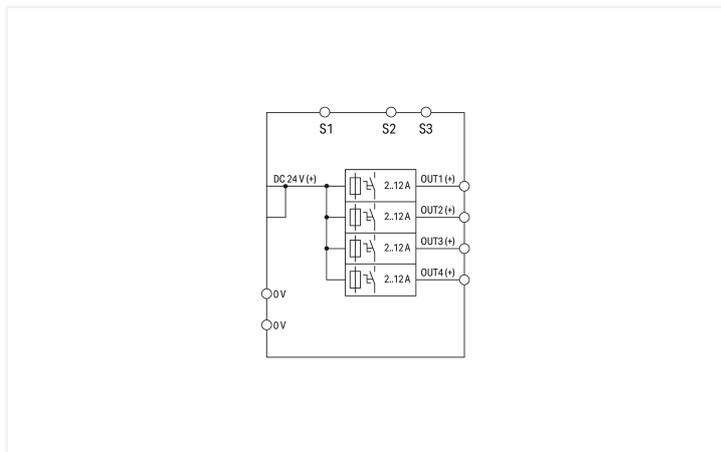


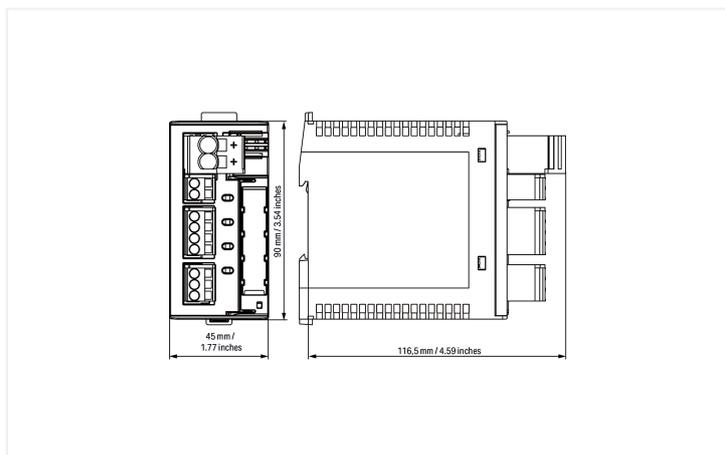
Data Sheet | Item Number: 787-1664/212-1000

Electronic circuit breaker; 4-channel; 24 VDC input voltage; adjustable 2 ... 12 A; active current limitation; communication capability

<https://www.wago.com/787-1664/212-1000>



Similar to illustration



Features:

- Space-saving ECB with four channels
- Nominal current: 2 ... 12 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Technical data

Input

| | |
|------------------------------------|---------------|
| Nominal input voltage $U_{i, nom}$ | 24 VDC |
| Input voltage range | 18 ... 30 VDC |

Output

| | |
|-------------------------------------|---|
| Total number of channels (module) | 4 |
| Nominal output voltage $U_{o, nom}$ | 4 x 24 VDC |
| Output voltage range | 18 ... 30 VDC (U_e - voltage drop) |
| Voltage drop | ≤ 240 mV (12 A) (Input +) |
| Nominal output current $I_{o, nom}$ | 4 x 2 / 4 / 6 / 8 / 10 / 12 A (adjustable for each channel via selector switch) |

Output

| | |
|---------------------------|--|
| Default Setting | DC 12 A; switched on |
| Trip time | 16 ms ... 5 s (load-dependent) |
| Switch-on capacity | |
| Switch-on behavior | Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s) |
| Active current limitation | Yes |
| Current limitation | $1.7 \times I_{o, nom}$ (typ.) |

Signaling and Communication

| | |
|----------------------------|--|
| Signaling | 4 x LED (green/red/orange) 1 x Remote control input (S1) 2 x Active signal output (S2; S3) |
| Operation status indicator | Green LED (channel OK) Red LED (tripped channel) |
| Remote input | Reactivation of all tripped channels via 15 ... 30 VDC pulse for min. 500 ms Switching on/off any number of channels via pulse sequence |

Efficiency/Power Losses

| | |
|-------------------|---|
| Power loss P_i | $\leq 0.77 \text{ W}; \leq 12.3 \text{ W}$ (4 x 12 A) |
| Efficiency (typ.) | 99 % |

Circuit Protection

| | |
|---------------|--------------------|
| Internal fuse | T 15 A per channel |
|---------------|--------------------|

Safety and protection

| | |
|--|-----------------------------|
| Isolation voltage (connectors – housing) | 0.5 kVDC |
| Protection class | III |
| Protection type | IP20; per EN 60529 |
| Reverse voltage protection | No |
| Resistance to reverse feed | $\leq 35 \text{ VDC}$ |
| Pollution degree | 2 |
| Transient suppression (primary) | Suppressor diode (33 V) |
| Parallel operation of single channels | Not permitted |
| Series operation | No |
| MTBF | > 500,000 h (per IEC 61709) |

Connection Data

Connection 1

| | |
|-------------------------|---|
| Connection type | Input (+) |
| Connection technology | Push-in CAGE CLAMP® |
| WAGO connector | WAGO 831 Series |
| Solid conductor | 0.5 ... 10 mm ² / 20 ... 8 AWG |
| Fine-stranded conductor | 0.5 ... 10 mm ² / 20 ... 8 AWG |
| Strip length | 13 ... 15 mm / 0.51 ... 0.59 inches |

Connection 2

| | |
|-------------------------|--|
| Connection type | Input (-); output; signaling |
| Connection technology | CAGE CLAMP® |
| WAGO connector | WAGO 721 Series |
| Solid conductor | 0.08 ... 2.5 mm ² / 28 ... 12 AWG |
| Fine-stranded conductor | 0.08 ... 2.5 mm ² / 28 ... 12 AWG |
| Strip length | 8 ... 9 mm / 0.31 ... 0.35 inches |

Physical data

| | |
|-----------------------------------|-------------------------|
| Width | 45 mm / 1.772 inches |
| Height | 90 mm / 3.543 inches |
| Depth from upper-edge of DIN-rail | 115.5 mm / 4.547 inches |

Mechanical data

| | |
|---------------|-------------|
| Mounting type | DIN-35 rail |
|---------------|-------------|

Material data

| | |
|-----------|----------|
| Fire load | 0.651 MJ |
| Weight | 170 g |

Environmental requirements

| | |
|---------------------------------|--|
| Ambient temperature (operation) | -25 ... +70 °C |
| Ambient temperature (storage) | -25 ... +85 °C |
| Relative humidity | 5 ... 96 % (no condensation permissible) |
| Derating | No derating |

Standards and Specifications

| | |
|--------------------------|--|
| Conformity marking | CE |
| Standards/specifications | EN 61000-6-2 EN 61000-6-3 UL 508 UL 2367 DNV |

Commercial data

| | |
|-----------------------|-------------|
| PU (SPU) | 1 pcs |
| Packaging type | Box |
| Country of origin | DE |
| Customs tariff number | 85362010900 |

Product Classification

| | |
|-------------|----------------------|
| UNSPSC | 39121601 |
| eCl@ss 10.0 | 27-37-18-02 |
| eCl@ss 9.0 | 27-37-18-02 |
| ETIM 9.0 | EC001440 |
| ETIM 10.0 | EC001440 |
| 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 020/2011 | EAC CoC 03081 |
| UL Underwriters Laboratories Inc. | UL 508 | E255817 |
| UR Underwriters Laboratories Inc. | UL 2367 | E363438 |

Declarations of conformity and manufacturer's declarations

| Approval | Standard | Certificate Name |
|---|----------|------------------|
| EU-Declaration of Confor- mity WAGO GmbH & Co. KG | - | - |

Approvals for marine applications



| Approval | Standard | Certificate Name |
|------------------|----------|------------------|
| DNV DNV GL SE | - | TAA0000281 |

Downloads

Environmental Product Compliance

Compliance Search

| | |
|---|---|
| Environmental Product Compliance 787-1664/212-1000 | ↓ |
|---|---|

Documentation

Bid Text

| | | | |
|-------------------|------------|------------------|---|
| 787-1664/212-1000 | 03.07.2019 | xml 7.18 KB | ↓ |
| 787-1664/212-1000 | 02.07.2019 | docx 20.65 KB | ↓ |

Instruction Leaflet

| | | |
|------------------------------|------------------|---|
| Elektronische Schutzschalter | pdf 671.88 KB | ↓ |
|------------------------------|------------------|---|

CAD/CAE-Data

CAD data

| | |
|-----------------------------------|---|
| 2D/3D Models 787-1664/212-1000 | ↓ |
|-----------------------------------|---|

CAE data

| | |
|--|---|
| EPLAN Data Portal 787-1664/212-1000 | ↓ |
| WSCAD Universe 787-1664/212-1000 | ↓ |
| ZUKEN Portal 787-1664/212-1000 | ↓ |

Libraries

Library

| | | | |
|---------------------------------------|---------------------|------------------|---|
| Anbindung Stromversorgungen Serie 787 | 1.0.0 28.08.2017 | zip 340.24 KB | ↓ |
| Anbindung Stromversorgungen Serie 787 | 1.3.0 14.05.2014 | zip 549.48 KB | ↓ |

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 Tool

1.1.2.1 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