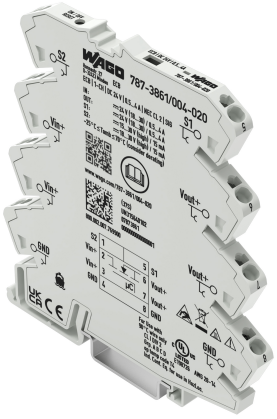
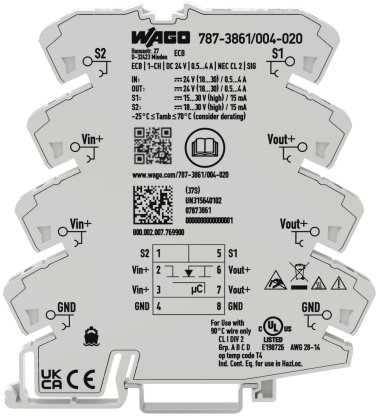
Data Sheet | Item Number: 787-3861/004-020

Electronic circuit breaker; 1-channel; 24 VDC input voltage; adjustable 0.5 … 4 A; Signal contact

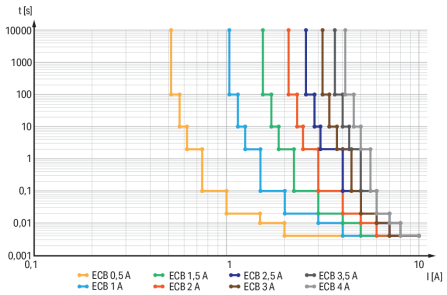
https://www.wago.com/787-3861/004-020

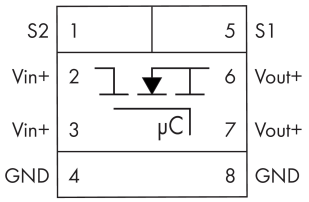


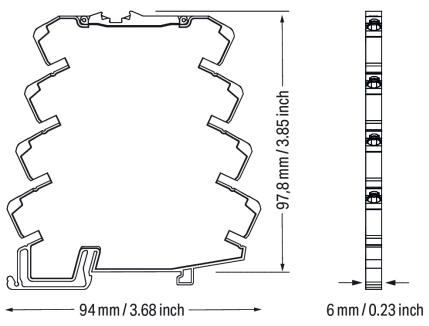












Features:

- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Notes

Note	The device is designed for use in SELV circuits. Depending on the output current, please use the approved minimum conductor cross-sections.

Technical data

Input

Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC

Output

Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	18 … 30 VDC (U_e - voltage drop)
Voltage drop	≤ 40 mV (0.5 A); ≤ 80 mV (1 A); ≤ 120 mV (1.5 A); ≤ 160 mV (2 A); ≤ 200 mV (2.5 A); ≤ 240 mV (3 A); ≤ 280 mV (3.5 A); ≤ 320 mV (4 A)
Nominal output current $I_{o\,nom}$	1 x 0.5 / 1 / 1.5 / 2 / 2.5 / 3 / 3.5 / 4 A (adjustable)
Default Setting	DC 0.5 A; switched off
Trip time	10 ms … 90 s (load-dependent)
Switch-on capacity	
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 0 ms / max. 500 ms)
Current limitation	No
Switch-on threshold	DC 20.3 V

Signaling and Communication

Signaling	1 x Status LED (green/yellow/red) 1 x Signal output (18 … 30 VDC, max. 0.015 A), default setting: tripped
Operation status indicator	Green LED (channel OK) Red LED (channel switched off)
Remote input	1 x Control input (15 … 30 VDC (active high); 0 … 5 VDC (active low); max. 0.015 A)

Efficiency/Power Losses

Power loss P_l	≤ 0.4 W (no load)
Efficiency (typ.)	98 %

Circuit Protection

Internal fuse	T 8 A

Safety and protection

Isolation voltage (connectors – housing)	1.5 kVDC
Protection class	III
Protection type	IP20; per EN 60529
Reverse voltage protection	No
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	807,840 h

Continued on next page

Insulation coordination (UL)	
Overvoltage category	II
Pollution degree	2

Insulation coordination	
Overvoltage category	II
Pollution degree	2

Connection Data

Number of jumper slots	8

Connection 1

Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 857 Series
Solid conductor	0.08 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Note (conductor cross-section)	Depending on the output current, use the conductor cross-sections tested and approved by UL: 26 … 14 AWG (0.5 A); 24 … 14 AWG (1 A / 1.5 A); 22 … 14 AWG (2 A / 2.5 A); 20 … 14 AWG (3 A / 3.5 A / 4 A)

Physical data

Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches

Mechanical data

Mounting type	DIN-35 rail

Material data

Fire load	0.57 MJ
Weight	55.7 g

Environmental requirements

Ambient temperature (operation)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Operating altitude	≤ 2000 m (a.s.l.)

Standards and Specifications

Conformity marking	CE; UKCA
Standards/specifications	EN 61000-6-2 EN 61000-6-3 UL 61010-2-201 DNV UL 2367

Continued on next page

Commercial data

PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	IN
Customs tariff number	85362010900

Product Classification

UNSPSC	39121634
ETIM 9.0	EC001440
ETIM 10.0	EC001440
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

CAS-No.	11120-22-2 1303-86-2 1317-36-8 7439-92-1 80-43-3
REACH Candidate List Substance	Diboron trioxide Lead Lead monoxide Lead silicate Peroxide, bis(1-methyl-1-phenylethyl)
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	182a37ec-835c-4398-8a34-26201cdd647d
SCIP notification number (Belgium)	7be3cd1c-81db-4697-a0e7-4510af4b0fd3
SCIP notification number (Bulgaria)	ace2344b-cece-40e9-838e-5420ff7f06d3
SCIP notification number (Czech Republic)	eb7d500a-09ae-4c68-b0e6-cf5de11bb5a3
SCIP notification number (Denmark)	2fe76880-4391-4e7f-b43f-312ea576f7ac
SCIP notification number (Finland)	5412f2c7-19e9-475b-820c-724a74597644
SCIP notification number (France)	1b5214de-93ad-4cba-819d-9eeab6e2f665
SCIP notification number (Germany)	eaba3ebe-87e7-4c03-b934-cf6d6de9d5ad
SCIP notification number (Hungary)	b81f3d60-9a87-43f6-9087-58886bf6fc11
SCIP notification number (Italy)	80f1784f-8ca8-4cda-914f-12cbdee804ee
SCIP notification number (Netherlands)	d630cf8b-2fe9-47a8-80dd-96dd379b2c2d
SCIP notification number (Poland)	efb9155f-9a6d-451d-9a46-a31631f587ae
SCIP notification number (Romania)	a2c30a36-126b-4e67-a159-9409a10010f4
SCIP notification number (Sweden)	585b6e14-60b3-4a80-b3b2-05e4b69c9b39

Approvals / Certificates

General approvals

Approval	Standard	Certificate Name
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 61010-2-201	UL E175199 Vol.3 Sec.5
UR Underwriters Laboratories Inc.	-	E175199

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	-	-

Continued on next page

Approvals for marine applications

Approval	Standard	Certificate Name
DNV DNV Germany GmbH	DNV-CG-0339,Aug.2021	TAA00001D1

Approvals for hazardous areas

Approval	Standard	Certificate Name
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance
787-3861/004-020

Documentation

Manual

Product Manual Electronic circuit breaker	V 1.0.0 25.03.2024	pdf 7578.83 KB

Instruction Leaflet

Electronic Circuit Breaker	V 1.1.1 11.09.2023	pdf 2491.12 KB

CAD/CAE-Data

CAD data

2D/3D Models
787-3861/004-020

1 Compatible Products

1.1 Optional Accessories

1.1.1 Jumper

1.1.1.1 Jumper



Item No.: 859-410/000-006
Jumper; for jumper slot; 10-way; insulated; blue



Item No.: 859-410
Jumper; for jumper slot; 10-way; insulated; light gray



Item No.: 859-410/000-005
Jumper; for jumper slot; 10-way; insulated; red



Item No.: 859-410/000-029
Jumper; for jumper slot; 10-way; insulated; yellow



Item No.: 859-402/000-006
Jumper; for jumper slot; 2-way; insulated; blue



Item No.: 859-402
Jumper; for jumper slot; 2-way; insulated; light gray



Item No.: 859-402/000-029
Jumper; for jumper slot; 2-way; insulated; yellow



Item No.: 859-403/000-006
Jumper; for jumper slot; 3-way; insulated; blue



Item No.: 859-403
Jumper; for jumper slot; 3-way; insulated; light gray



Item No.: 859-403/000-005
Jumper; for jumper slot; 3-way; insulated; red



Item No.: 859-403/000-029
Jumper; for jumper slot; 3-way; insulated; yellow



Item No.: 859-404/000-006
Jumper; for jumper slot; 4-way; insulated; blue

Continued on next page

1.1.1.1 Jumper



Item No.: 859-404
Jumper; for jumper slot; 4-way; insulated; light gray



Item No.: 859-404/000-005
Jumper; for jumper slot; 4-way; insulated; red



Item No.: 859-404/000-029
Jumper; for jumper slot; 4-way; insulated; yellow



Item No.: 859-405/000-006
Jumper; for jumper slot; 5-way; insulated; blue



Item No.: 859-405
Jumper; for jumper slot; 5-way; insulated; light gray



Item No.: 859-405/000-005
Jumper; for jumper slot; 5-way; insulated; red



Item No.: 859-405/000-029
Jumper; for jumper slot; 5-way; insulated; yellow



Item No.: 859-406/000-006
Jumper; for jumper slot; 6-way; insulated; blue



Item No.: 859-406
Jumper; for jumper slot; 6-way; insulated; light gray



Item No.: 859-406/000-005
Jumper; for jumper slot; 6-way; insulated; red



Item No.: 859-406/000-029
Jumper; for jumper slot; 6-way; insulated; yellow



Item No.: 859-407/000-006
Jumper; for jumper slot; 7-way; insulated; blue



Item No.: 859-407
Jumper; for jumper slot; 7-way; insulated; light gray



Item No.: 859-407/000-005
Jumper; for jumper slot; 7-way; insulated; red



Item No.: 859-407/000-029
Jumper; for jumper slot; 7-way; insulated; yellow



Item No.: 859-408/000-006
Jumper; for jumper slot; 8-way; insulated; blue



Item No.: 859-408
Jumper; for jumper slot; 8-way; insulated; light gray

Item No.: 859-408/000-005
Jumper; for jumper slot; 8-way; insulated; red

Item No.: 859-408/000-029
Jumper; for jumper slot; 8-way; insulated; yellow



Item No.: 859-409/000-006
Jumper; for jumper slot; 9-way; insulated; blue



Item No.: 859-409
Jumper; for jumper slot; 9-way; insulated; light gray

Item No.: 859-409/000-005
Jumper; for jumper slot; 9-way; insulated; red

Item No.: 859-409/000-029
Jumper; for jumper slot; 9-way; insulated; yellow

1.1.2 Marking

1.1.2.1 Marker

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.: 793-502
WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-566
WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-503
WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-504
WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-505
WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-506
WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; 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

Continued on next page

1.1.2.2 Marking strip



Item No.: 2009-110
Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

1.1.3 Potential distribution

1.1.3.1 Potential Distribution Module



Item No.: 787-3861/000-1000
Potential distribution module; 1 potential; with 8 clamping points 0V; Conductor cross-section up to 2.5 mm²



Item No.: 787-3861/000-2000
Potential distribution module; 1 potential; with 8 clamping points 24V; Conductor cross-section up to 2.5 mm²



Item No.: 787-3861/000-3000
Potential distribution module; 2 potentials; with 4 clamping points each (0V / 24V); Conductor cross-section up to 2.5 mm²

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