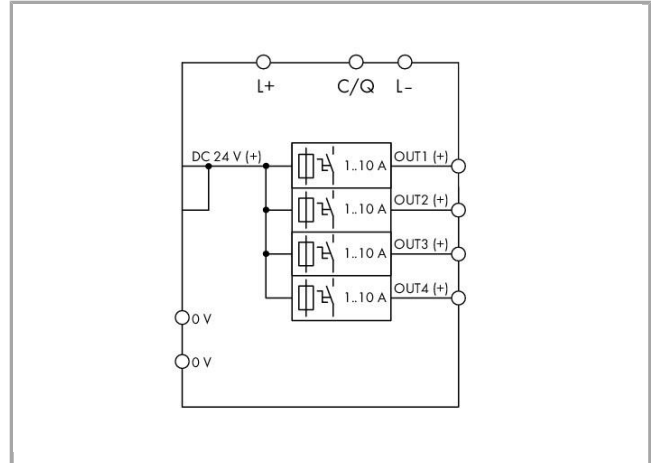


Data sheet | Item number: 787-1664/000-080

electronic circuit breaker; 4-channel; 24 VDC input voltage; adjustable 1 ...  
10 A; IO-Link

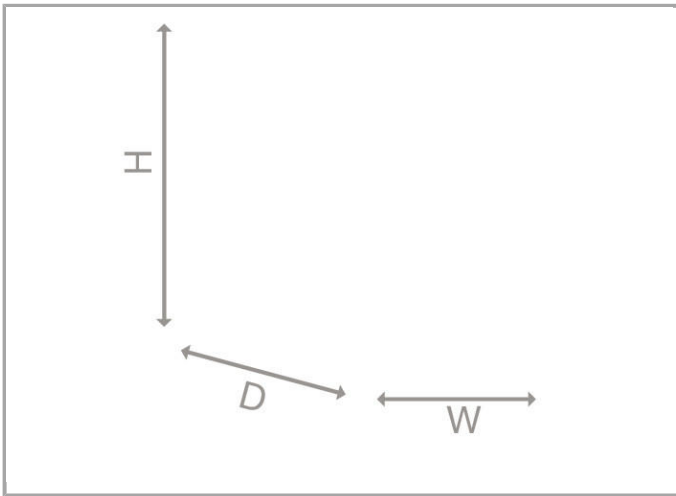


787-1664\_000-080



RoHS  Compliant

[BOMcheck.net](https://www.bomcheck.net)



## Item description

### Features:

- Space-saving ECB with four channels
- Nominal current: 1 ... 10 A (adjustable for each channel via sealable selector switch or IO-Link interface)
- Switch-on capacity > 50,000  $\mu$ F per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Status message and current measurement of each individual channel via IO-Link interface
- Switch on/off each channel separately via IO-Link interface

## Data

### Technical Data

#### Input

Nominal input voltage $U_{i\text{nom}}$	DC 24 V
Input voltage range	DC 18 – 30 V

#### Output

Total number of channels (module)	4
Nominal output voltage $U_{o\text{nom}}$	4 x DC 24 V
Output voltage range	DC 18 – 30 V ( $U_i$ – voltage drop)
Voltage drop	$\leq 200$ mV (Input (+))
Nominal output current $I_{o\text{nom}}$	4 x 1 / 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel separately via IOlink interface; 1, 2, 4, 6, 10 A adjustable for each channel via selector switch)
Factory preset	DC 10 A; switched off
Trip time	16 ms – 100 s (Load-dependent)



Switch-on capacity	> 50000 $\mu$ F per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active Current Limitation	no

### Signaling and communication

Signaling	4 x LED (green/red/orange) 1 x IOlink interface
Operation status indicator	LED green (channel OK) LED red (tripped channel)
Remote input	Switching on/off any number of channels via IOlink interface

### Efficiency/Power losses:

Power loss $P_v$	$\leq 0.84$ W (no load); $\leq 10$ W (4 x 10 A)
Efficiency (typ.)	99 %

### Fuse protection:

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

### Safety and protection:

Insulation voltage (connectors-housing)	DC 0.5 kV
Protection class	III
Protection class	IP20 (per EN 60529)
Reverse voltage protection	No
Feedback voltage	$\leq$ DC 35 V
Transient protection, primary	Suppressor diode, 33 V
Parallel operation of single channels	Not permitted
Series connection	No
MTBF	> 500,000 h (per IEC 61709)

### Connection data

Connection type (1)	Input (+)
Connection technology	Push-in CAGE CLAMP®
WAGO terminal	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 inch
Connection type (2)	Input (-), output, signaling
Connection technology 2	CAGE CLAMP®

WAGO terminal 2	WAGO 721 Series
Solid conductor (2)	0.08 2.5 mm <sup>2</sup> / 28 12 AWG
Fine-stranded conductor (2)	0.08 2.5 mm <sup>2</sup> / 28 12 AWG
Strip length (2)	8 9 mm / 0.31 0.35 inch

### Geometrical Data

Width	45 mm / 1.772 inch
Height	90 mm / 3.543 inch
Length from upper-edge of DIN-35 rail	115.5 mm / 4.547 inch

### Mechanical data

Type of mounting	DIN-35 rail (EN 60715)
------------------	------------------------

### Material Data

Weight	170 g
--------	-------

### Environmental Requirements

Surrounding air (operating) temperature	-25 70 °C
Surrounding air (storage) temperature	-25 85 °C
Relative humidity	5 96 % (no condensation permissible)
Derating	≥ 50 °C: see instruction manual
Pollution degree	2

### Standards and specifications


Conformity marking	CE
Standards/specifications	UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (* applied for)
















### Commercial data

















Country of origin	DE
GTIN	4055143899239
Customs Tariff No.	85363010900















### Compatible products

### Marking accessories

	<b>Item no.: 2009-110</b> Marking strips; on reel; not stretchable; plain; snap-on type; white	2009-110
--	---	----------

	<b>Item no.: 2009-115</b> WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; white		2009-115
	<b>Item no.: 2009-115/000-002</b> WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; yellow	/000-002	2009-115
	<b>Item no.: 2009-115/000-006</b> WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; blue	/000-006	2009-115
	<b>Item no.: 2009-115/000-007</b> WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; gray	/000-007	2009-115
	<b>Item no.: 2009-115/000-012</b> WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; orange	/000-012	2009-115
	<b>Item no.: 2009-115/000-017</b> WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; light green	/000-017	2009-115
	<b>Item no.: 2009-115/000-023</b> WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; green	/000-023	2009-115
	<b>Item no.: 2009-115/000-024</b> WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; violet	/000-024	2009-115
	<b>Item no.: 2009-135</b> WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; white		2009-135
	<b>Item no.: 2009-145</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; white		2009-145
	<b>Item no.: 2009-145/000-002</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; yellow	/000-002	2009-145
	<b>Item no.: 2009-145/000-005</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; red	/000-005	2009-145
	<b>Item no.: 2009-145/000-006</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; blue	/000-006	2009-145
	<b>Item no.: 2009-145/000-007</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; gray	/000-007	2009-145
	<b>Item no.: 2009-145/000-012</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; orange	/000-012	2009-145

	<b>Item no.: 2009-145/000-023</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; green	2009-145
		7000-023
	<b>Item no.: 2009-145/000-024</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; violet	2009-145
		7000-024
	<b>Item no.: 210-831</b> Marking strips; on reel; 2.3 mm wide; plain; Self-adhesive; white	210-831
	<b>Item no.: 210-832</b> Marking strips; on reel; 3 mm wide; plain; Self-adhesive; white	210-832
	<b>Item no.: 248-501</b> Miniature WSB Quick marking system; plain; Marker width 5 mm; 10 strips with 10 markers per card	248-501
	<b>Item no.: 248-501/000-002</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow	248-501
		7000-002
	<b>Item no.: 248-501/000-005</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white	248-501
		7000-005
	<b>Item no.: 248-501/000-006</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white	248-501
		7000-006
	<b>Item no.: 248-501/000-007</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white	248-501
		7000-007
	<b>Item no.: 248-501/000-012</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white	248-501
		7000-012
	<b>Item no.: 248-501/000-017</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white	248-501
		7000-017
	<b>Item no.: 248-501/000-023</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white	248-501
		7000-023
	<b>Item no.: 793-501</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	793-501
	<b>Item no.: 793-501/000-002</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	793-501
		7000-002
	<b>Item no.: 793-501/000-005</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	793-501
		7000-005
	<b>Item no.: 793-501/000-006</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	793-501
		7000-006

	<b>Item no.: 793-501/000-007</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	/000-007	793-501
	<b>Item no.: 793-501/000-012</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	/000-012	793-501
	<b>Item no.: 793-501/000-017</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	/000-017	793-501
	<b>Item no.: 793-501/000-023</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	/000-023	793-501
	<b>Item no.: 793-501/000-024</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	/000-024	793-501
	<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		793-5501
	<b>Item no.: 793-5501/000-002</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; yellow	/000-002	793-5501
	<b>Item no.: 793-5501/000-005</b> WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type; red	/000-005	793-5501
	<b>Item no.: 793-5501/000-006</b> WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type; blue	/000-006	793-5501
	<b>Item no.: 793-5501/000-007</b> WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type; gray	/000-007	793-5501
	<b>Item no.: 793-5501/000-012</b> WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type; orange	/000-012	793-5501
	<b>Item no.: 793-5501/000-014</b> WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type; brown	/000-014	793-5501
	<b>Item no.: 793-5501/000-017</b> WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type; light green	/000-017	793-5501
	<b>Item no.: 793-5501/000-023</b> WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type; green	/000-023	793-5501



Item no.: 793-5501/000-024

WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type; violet

793-5501

/000-024

## tools



Item no.: 210-720

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

210-720



Item no.: 210-721

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

210-721



Item no.: 210-769

SCREWDRIVER; green

210-769

## ferrule



Item no.: 216-201

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; white

216-201



Item no.: 216-202

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray

216-202



Item no.: 216-203

Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; insulated; electro-tin plated; red

216-203



Item no.: 216-204

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; insulated; electro-tin plated; black

216-204



Item no.: 216-205

Ferrule; Sleeve for 2.08 mm<sup>2</sup> / AWG 14; insulated; electro-tin plated; yellow

216-205



Item no.: 216-206

Ferrule; Sleeve for 2.5 mm<sup>2</sup> / AWG 14; insulated; electro-tin plated; blue

216-206



Item no.: 216-207

Ferrule; Sleeve for 4 mm<sup>2</sup> / AWG 12; insulated; electro-tin plated; gray

216-207



Item no.: 216-208

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

216-208



Item no.: 216-221

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; white

216-221



Item no.: 216-222

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray

216-222



Item no.: 216-223

Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; insulated; electro-tin plated; red

216-223



Item no.: 216-224

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; insulated; electro-tin plated; black

216-224



Item no.: 216-241

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

216-241

















Item no.: 216-242

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

216-242

Item no.: 216-243

	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	216-243
	<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	216-244
	<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	216-246
	<b>Item no.: 216-262</b>	
	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	216-262
	<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	216-263
	<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	216-264
	<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	216-266
	<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	216-267
	<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	216-284
	<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	216-286
	<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	216-287
	<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	216-288
	<b>Item no.: 216-301</b>	
	Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow	216-301
	<b>Item no.: 216-302</b>	
	Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated; green	216-302
	<b>Item no.: 216-321</b>	
	Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow	216-321
	<b>Item no.: 216-322</b>	
	Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated; green	216-322

## Downloads

## Documentation

## Manual



Electronic Circuit Breaker 24 VDC / 4 × 1 0 A	V 1.0.0	pdf 4.0 MB	Download
--	---------	---------------	----------

#### Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0	pdf 265.8 kB	Download
--	---------	-----------------	----------

### Application Notes

#### Application note SIEMENS

Anwendungshinweis Elektronische Sicherung 787-166x/0000-0080 mit IO Link (a2019004)	2019-06-06 Jun 6, 2019	zip 7.3 MB	Download
---	---------------------------	---------------	----------

Dieser Anwendungshinweis beschreibt wie die WAGO elektronischen Sicherungen (787-1668/0000-0080 bzw. 787-1664/0000-0080) mit IO Link Schnittstelle im TIA Portal V15 eingebunden werden. Die Sicherung wird entweder an einem Wago IO Link Master oder aber an einem Siemens IO Link Master betrieben.

Anwendungshinweis Elektronische Sicherung 787-166x/0000-0080 mit IO Link (a2019005)	2019-06-06 Jun 6, 2019	zip 10.9 MB	Download
---	---------------------------	----------------	----------

Dieser Anwendungshinweis beschreibt wie die WAGO elektronischen Sicherungen (787-1668/0000-0080 bzw. 787-1664/0000-0080) mit IO Link Schnittstelle im SIMATIC Manager V5.5 eingebunden wird.

#### Application Note e!COCKPIT

e!COCKPIT Anwendungshinweis WagoAppFuse (a2019001)	2019-06-06 Jun 6, 2019	pdf 892.6 kB	Download
--	---------------------------	-----------------	----------

In diesem Anwendungshinweis wird ein Beispielprojekt für die Bibliothek „WagoAppFuse“ geliefert. Es wird auf die Anbindung einer elektronischen Sicherung (ECB) über die IO-Link Schnittstelle eingegangen. Als IO-Link Master wird ein Modul 750-657 eingesetzt.

### Device Files

#### Device Description File

Gerätebeschreibungsdateien 787-1664/000-080 für Firmware bis Version 2.38	1.1 Mar 19, 2018	zip 166.1 kB	Download
---	---------------------	-----------------	----------

Gerätebeschreibungsdateien 787-1664/000-080 für Firmware-Version 2.39 und höher	1.4 Jan 29, 2019	zip 166.8 kB	Download
---	---------------------	-----------------	----------



Subject to changes.

---