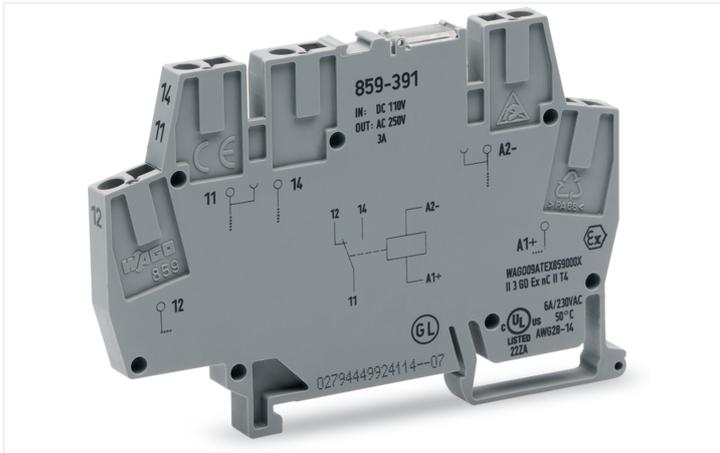


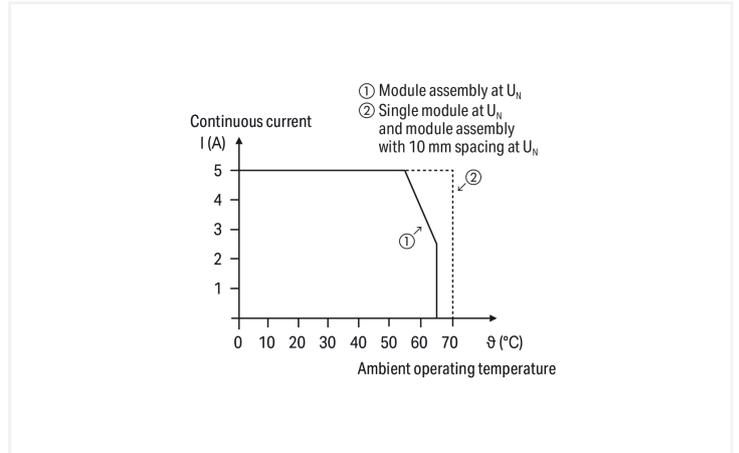
# Data Sheet | Item Number: 859-391

Relay module; Nominal input voltage: 110 VDC; 1 changeover contact; Railway; Red status indicator; Module width: 6 mm; 2,50 mm<sup>2</sup>; gray

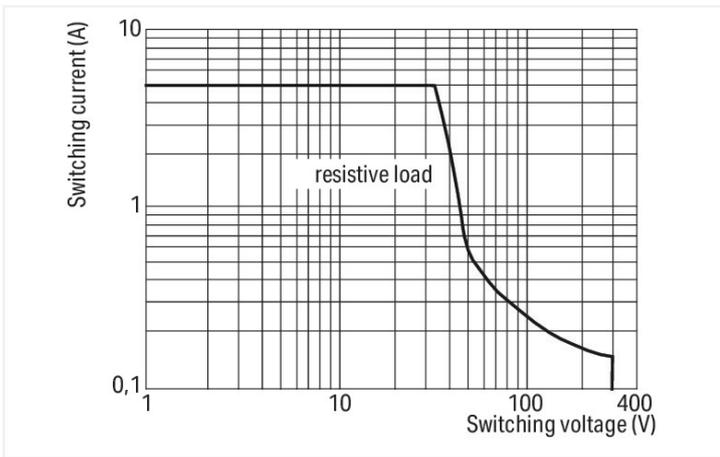
<https://www.wago.com/859-391>



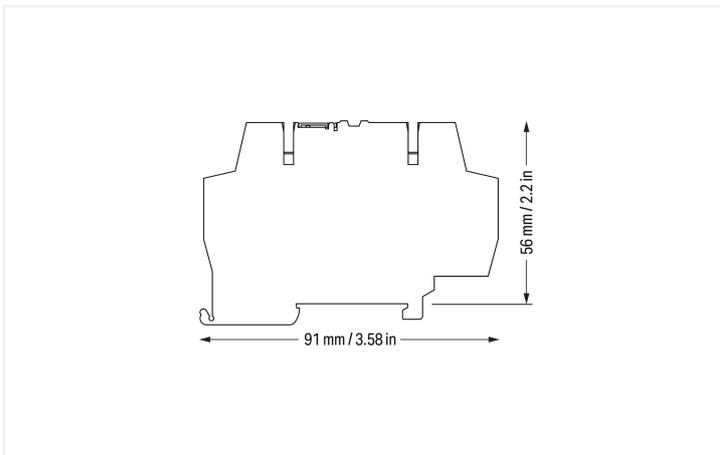
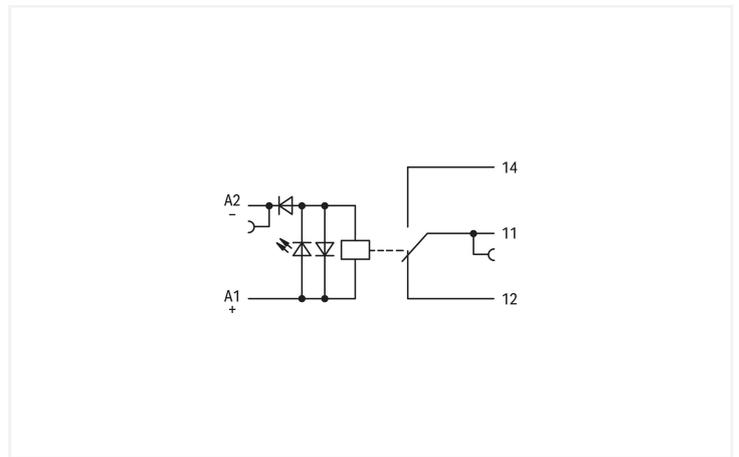
Color: ■ gray



Current-carrying capacity curve



DC load limit curve



## Notes

Note	To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.
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## Technical data

## Control circuit

Nominal input voltage $U_N$	110 VDC
Input voltage range	±30 %
Nominal input current at $U_N$	3 mA

## Load circuit

Number of changeover/switchover contacts	1
Contact material (relay)	AgSnO <sub>2</sub>
Limiting continuous current	5 A
Switching Voltage, Max.	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10 <sup>3</sup> switching operations
Mechanical life	5 x 10 <sup>6</sup> switching operations
Switching frequency with/without load (max.)	6 min <sup>-1</sup> / 180 min <sup>-1</sup>

## Signaling

Status indicator	Red LED
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## Safety and protection

Rated Voltage	300 V
Rated impulse withstand voltage	4 kV
Overtoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kVrms
Dielectric strength (open contact) (AC, 1 min)	1 kVrms
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using 859-525 end plate

## Connection Data

Connection technology	CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG
Strip length	5 ... 6 mm / 0.2 ... 0.24 inches

### Physical data

Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches

### Mechanical data

Mounting type	DIN-35 rail
Mounting position	horizontal (standing/lying); vertical

### Material data

Note (material data)	<a href="#">Information on material specifications can be found here</a>
Color	gray
Insulation material (main housing)	Polyamide (PA66)
Material group	I
Flammability class per UL94	V0
Fire load	0.432 MJ
Weight	22.3 g

### Environmental requirements

Ambient temperature (operation at $U_N$ )	-40 ... +70 °C
Ambient temperature (storage)	-40 ... +70 °C
Processing temperature	-25 ... +50 °C
Temperature range of connection cable	$\geq (T_{\text{ambient}} + 20 \text{ K})$
Relative humidity	5 ... 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

### Standards and Specifications

Standards/specifications	EN 61010-2-201 EN 61810-1 EN 61373 UL 508 DNV
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### Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
PU (SPU)	10 pcs
Packaging type	Box
Country of origin	CN
GTIN	4055143604253
Customs tariff number	85364900990

### Product Classification

UNSPSC	39122334
eCl@ss 10.0	27-37-16-01
eCl@ss 9.0	27-37-16-01
ETIM 9.0	EC001437
ETIM 10.0	EC001437
ECCN	NO US CLASSIFICATION

**Environmental Product Compliance**

CAS-No.	7439-92-1 79-94-7
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol Lead
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	7(a)
SCIP notification number (Austria)	6d12ed06-fbf3-46a1-a654-630e8d49ec3a
SCIP notification number (Belgium)	204a505a-779b-47fd-bb86-ece19e28e6f6
SCIP notification number (Bulgaria)	52694fa5-7fde-4b35-8106-adf982eee3cc
SCIP notification number (Czech Republic)	25a17a55-10db-48ed-bd57-1f856ac46747
SCIP notification number (Denmark)	50126113-d1c1-4fed-8ff4-c751f9813eff
SCIP notification number (Finland)	e6292971-97d1-4062-99e2-1f8d520ffe86
SCIP notification number (France)	dc7b4162-3d72-47f2-a6ca-a778864afaac
SCIP notification number (Germany)	bdf824c4-0b3f-474f-b497-66278509560c
SCIP notification number (Hungary)	58a34e58-8285-4ce7-aca7-c5dd0d887a32
SCIP notification number (Italy)	f6ec7b34-e646-4dac-82b3-bc9d30a8a37e
SCIP notification number (Netherlands)	a5a1c421-7f99-42f1-971a-c6ab6f7bbcaa
SCIP notification number (Poland)	5dcd3f8d-80ba-40ba-ae3d-753b370f3f76
SCIP notification number (Romania)	c2238359-5fcc-49dd-b253-48ff3cbaac69
SCIP notification number (Sweden)	6b37fa18-396b-4c17-a57e-87c804f6fa3c

**Approvals / Certificates**

**General approvals** **Declarations of conformity and manufacturer's declarations**



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 004/2011	EAC CoC 03078
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.4

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

**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
CCC CNEX	CNCA-C23-01	2021312304000982 (Ex ec nC IIC T4 Gc)
UKEx WAGO GmbH & Co. KG	EN 60079-0	UKCA_WA- GO22UKEX007X_ec nC

**Downloads**

**Environmental Product Compliance**

Compliance Search	
Environmental Product Compliance 859-391	<a href="#">↓</a>

**Documentation**

Bid Text			
859-391	19.02.2019	xml 4.51 KB	<a href="#">↓</a>
859-391	20.02.2019	docx 16.88 KB	<a href="#">↓</a>

Instruction Leaflet			
CCC Ex (Additional information)	26.04.2023	pdf 132.68 KB	<a href="#">↓</a>
Relay modules, Opto-coupler modules	V 2.0.0 19.01.2022	pdf 2066.27 KB	<a href="#">↓</a>

**CAD/CAE-Data**

CAD data	
2D/3D Models 859-391	<a href="#">↓</a>

CAE data	
EPLAN Data Portal 859-391	<a href="#">↓</a>
WSCAD Universe 859-391	<a href="#">↓</a>
ZUKEN Portal 859-391	<a href="#">↓</a>

**1 Compatible Products**

**1.1 Optional Accessories**

**1.1.1 End plate**

**1.1.1.1 End plate**



**Item No.: 859-525**  
End and intermediate plate; 1 mm thick; gray

**1.1.1.2 Intermediate plate**



**Item No.: 859-525**  
End and intermediate plate; 1 mm thick; gray

1.1.2 Ferrule

1.1.2.1 Ferrule



**Item No.: 216-321**  
 Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow



**Item No.: 216-322**  
 Ferrule; Sleeve for 0.34 mm<sup>2</sup> / 22 AWG; insulated; electro-tin plated; light turquoise



**Item No.: 216-221**  
 Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; white



**Item No.: 216-222**  
 Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray



**Item No.: 216-223**  
 Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; insulated; electro-tin plated; red



**Item No.: 216-224**  
 Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; insulated; electro-tin plated; black

1.1.3 Jumper

1.1.3.1 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.: 859-402/000-005**  
 Jumper; for jumper slot; 2-way; insulated; red



**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



**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

## 1.1.4 Marking

### 1.1.4.1 Marker



**Item No.: 2009-145**

Mini-WSB In-line; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white



**Item No.: 248-502**

Mini-WSB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white



**Item No.: 248-503**

Mini-WSB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white



**Item No.: 248-504**

Mini-WSB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white



**Item No.: 248-506**

Mini-WSB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white



**Item No.: 248-501**

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

### 1.1.4.2 Marking device



**Item No.: 210-110**

Fiber-tip pen

## 1.1.5 Test and measurement

### 1.1.5.1 Testing accessories



**Item No.: 859-500**

WAGO Test pin; 1 mm Ø; 30 V AC / 60 V DC; CAT0; 1 A; 10 mm uninsulated; Test lead for soldering up to 0,5mm<sup>2</sup>

## 1.1.6 Tool

### 1.1.6.1 Operating tool



**Item No.: 210-720**

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

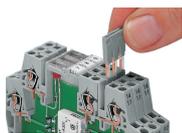
## Installation Notes

### Conductor termination



Conductor termination

## Commoning



Easy commoning using adjacent jumpers

## Marking



Marking via Mini-WSB Quick Marking System