# Data Sheet | Item Number: 859-793
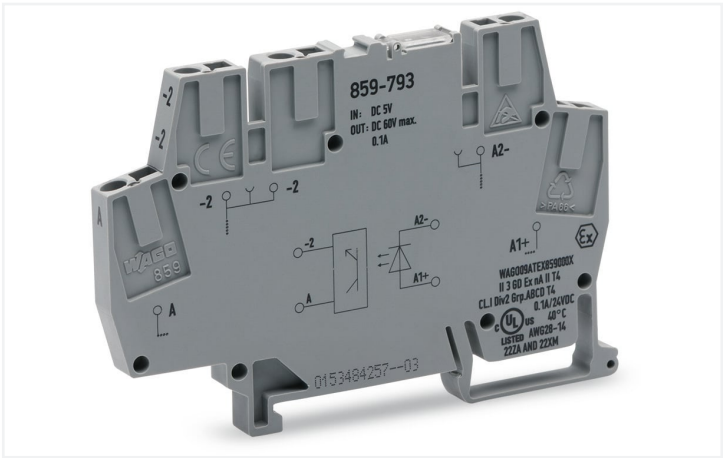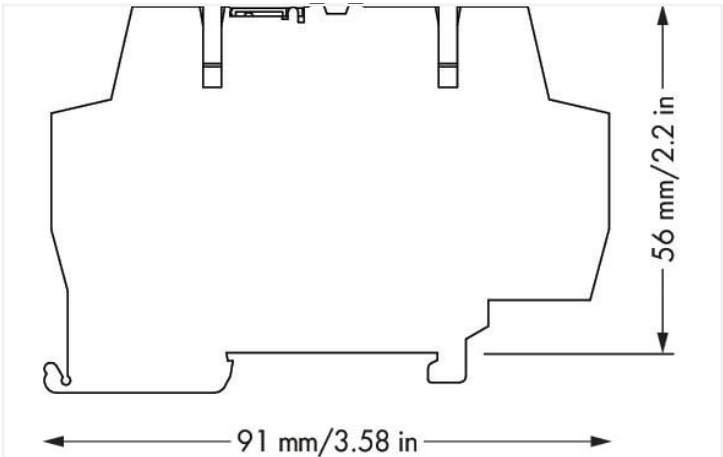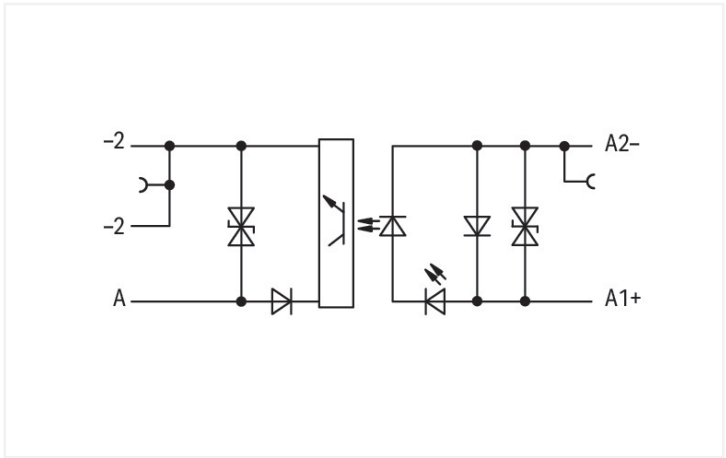
Optocoupler module; Nominal input voltage: 5 VDC; Output voltage range: 3 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Railway; Module width: 6 mm; gray
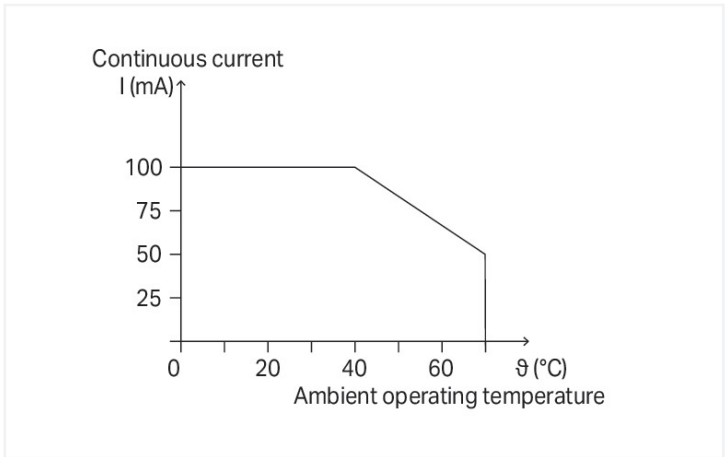
https://www.wago.com/859-793



Color: gray





Dimensions in mm



Current-carrying capacity curve

## Notes

Note

Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

## Technical data

### Control Circuit

| | |
|---|---|
| Nominal input voltage $U_N$ | DC 5 V |
| Input voltage range (low level) | DC 0 … 0.8 V |
| Input voltage range (high level) | DC 2 … 6.25 V |
| Nominal input current at $U_N$ | 8 mA |

### Load circuit

| | |
|---|---|
| Circuit type | 2-wire connection |
| Limiting continuous current | 0.1 A |
| Output voltage range | DC 3 … 60 V |
| Voltage drop | ≤ 2.5 VDC |
| Leakage current at rated voltage | ≤ 25 µA |
| Turn-on time | ≤ 20 µs |
| Turn-off time | ≤ 120 µs |
| Switching frequency | ≤ 1.5 kHz |

## Signaling

| | |
|---|---|
| Status indicator | Red LED |

## Safety and protection

| | |
|---|---|
| Rated voltage | 300 V |
| Overvoltage category | II |
| Pollution degree | 2 |
| Dielectric strength (control/load circuit) (AC, 1 min) | 2.5 kVrms |
| Insulation type (control/load circuit) | Basic insulation |
| Insulation type (adjacent devices) | Reinforced insulation (safe isolation) |
| Insulation type (between adjacent devices of the same type) | Reinforced insulation (safe isolation) |
| Insulation type (to adjacent devices of different types) | Basic insulation |
| 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 mm² / 28 … 14 AWG |
| Fine-stranded conductor | 0.08 … 2.5 mm² / 28 … 14 AWG |
| Fine-stranded conductor; with insulated ferrule | 0.08 … 1.5 mm² / 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

| | |
|---|---|
| Color | gray |
| Fire load | 0.313 MJ |
| Weight | 17.7 g |

## Environmental requirements

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

## Standards and specifications

| | |
|---|---|
| Standards/specifications | EN 61010-2-201<br>EN 61000-6-2<br>EN 61000-6-3<br>EN 50121-3-2<br>EN 61373<br>UL 508 |

## Commercial data

| | |
|---|---|
| Product Group | 6 (INTERFACE ELECTRONIC) |
| eCl@ss 10.0 | 27-26-15-03 |
| eCl@ss 9.0 | 27-26-15-03 |
| ETIM 8.0 | EC001504 |
| ETIM 7.0 | EC001504 |
| PU (SPU) | 10 pcs |
| Packaging type | Box |
| Country of origin | DE |
| GTIN | 4055143606271 |
| Customs tariff number | 85365005000 |

## Approvals / Certificates

### General approvals

| Approval | Standard | Certificate Name |
|---|---|---|
| EAC<br>Brjansker Zertifizierungs-stelle | TP TC 020/2011 | EAC_Certificate_RU_C-DE.AM02.B.00115_19 |
| UL<br>UL International Nether-lands B.V. (ORDINARY LO-CATIONS) | UL 508 | E175199 Sec.4 |

### Approvals for hazardous areas

| Approval | Standard | Certificate Name |
|---|---|---|
| CCC<br>CNEX | CNCA-C23-01 | 2021312304000982 (Ex ec IIC T4 Gc) |
| UKEx<br>WAGO GmbH & Co. KG | EN 60079-0 | WAGO22UKEX007X_ec |
| UL<br>Underwriters Laboratories Inc. (HAZARDOUS LOCA-TIONS) | ANSI/ISA 12.12.01 | E198726 |

## Downloads

### Environmental Product Compliance

**Compliance Search**

Environmental Product Compliance 859-793

## Documentation

**WAGO**

## Bid Text

| | | | |
|---|---|---|---|
| 859-793 | 19.02.2019 | xml<br>3.86 KB | ↓ |
| 859-793 | 20.02.2019 | docx<br>15.23 KB | ↓ |

## Instruction Leaflet

| | | | |
|---|---|---|---|
| Relay modules, Opto-coupler modules | V 2.0.0<br>19.01.2022 | pdf<br>2066.27 KB | ↓ |

## CAD/CAE-Data

### CAD data

| | |
|---|---|
| 2D/3D Models 859-793 | ↓ |

### CAE data

| | |
|---|---|
| EPLAN Data Portal<br>859-793 | ↓ |
| WSCAD Universe<br>859-793 | ↓ |
| ZUKEN Portal 859-793 | ↓ |

## 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 mm² / AWG 24; insulated; electro-tin plated; yellow

Item No.: 216-322
Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise

Item No.: 216-221
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white

Item No.: 216-222
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray

Item No.: 216-223
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red

Item No.: 216-224
Ferrule; Sleeve for 1.5 mm² / 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; signal 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 Inline; 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 devices

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 0,5mm²

## 1.1.6 Tool
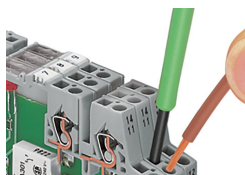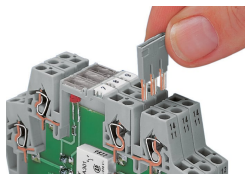
### 1.1.6.1 Operating tool

Item No.: 210-720
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

## Installation Notes

### Conductor termination

### Commoning

## Marking

Subject to changes. Please also observe the further product documentation!

Current addresses can be found at:: www.wago.com

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