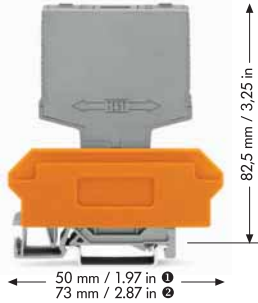


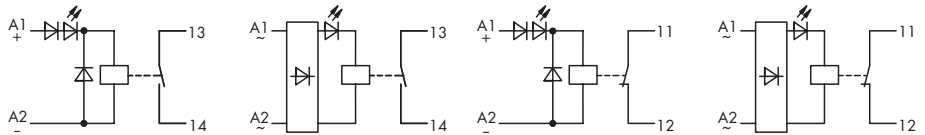
	<b>Relay with 1 make contact</b>	<b>Relay with 1 break contact</b>
	Module width 10 mm / 0.394 in	Module width 10 mm / 0.394 in



**WSB marker cards**

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A2, 13, 14; Item No.: 209-952
- Marking A1, A2, 11, 12; Item No.: 209-953

5 cards, each containing 10 strips with 10 markers



Description	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit
Switching relay module	24 V DC	7.4 mA	<b>286-364</b>	1	24 V DC	20.4 mA	<b>286-368</b>	1
	48 V DC	8.6 mA	<b>286-365</b>	1	48 V DC	11.1 mA	<b>286-369</b>	1
	60 V DC	7.3 mA	<b>286-366</b>	1	60 V DC	10.7 mA	<b>286-370</b>	1
	24 V AC	10.2 mA	<b>286-564</b>	1	24 V AC	18.5 mA	<b>286-568</b>	1
	115 V AC	10.5 mA	<b>286-566</b>	1				
	230 V AC	7.3 mA	<b>286-567</b>	1				

**Technical Data**

Accessories see pages 150 ... 151

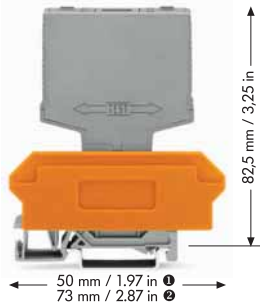
Accessories see pages 150 ... 151

Contact material	Ag Cd O + 1 μ Au	Ag Cd O
Max. switching voltage	30 V DC / 250 V AC	250 V DC / 250 V AC
Max. make / break current	5 A / 5 A	8 A / 8 A
Max. continuous current	5 A	5 A
Max. Switching power (resistive)	150 W / 1250 VA	150 W / 1250 VA
Pull-in / operating power	100 mW / 200 mW	300 mW / 450 mW
Pull-in/drop-out/bounce time typ.	6 ms / 6 ms / 2 ms	10 ms / 4 ms / 3 ms
Dielectric strength contact-coil (AC, 1 min)	2.5 kV	4 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 2.5 kV / 3	250 V / 4 kV / 3
Mechanical life	2 x 10 <sup>7</sup> switching operations	1 x 10 <sup>7</sup> switching operations
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations	1 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

**Accessories**

	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①	12 mm / 0.472 in <b>280-618</b>	1	12 mm / 0.472 in <b>280-618</b>	1
with 4-conductor terminal blocks, orange separator ②	12 mm / 0.472 in <b>280-608</b>	1	12 mm / 0.472 in <b>280-608</b>	1
with 4-conductor terminal blocks, marker plate ②	15 mm / 0.591 in <b>280-762</b>	1	15 mm / 0.591 in <b>280-762</b>	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

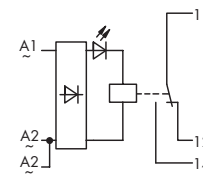
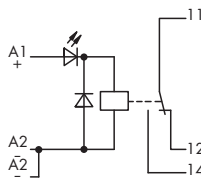
	Relay with 1 changeover contact	Relay with 1 changeover contact
	Module width 15 mm / 0.591 in	Module width 15 mm / 0.591 in



WSB marker cards

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A2, A2, 11, 12, 14, A1, A2, A2;  
Item No.: 209-994

5 cards, each containing 10 strips with 10 markers



Description	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit
Switching relay module	5/6 V DC	94.3 mA	286-302	1	5/6 V AC/DC	94.3 mA	286-502	1
	12 V DC	49.4 mA	286-303	1	12 V AC/DC	49.4 mA	286-503	1
	24 V DC	19.4 mA	286-304	1	24 V AC/DC	21.8 mA	286-504	1
	48 V DC	11.4 mA	286-305	1	48 V AC/DC	11.4 mA	286-505	1
	60 V DC	9.2 mA	286-306	1	60 V AC/DC	9.2 mA	286-506	1
	115 V DC	4.8 mA	286-307	1	115 V AC	4.8 mA	286-507	1
	220 V DC	6.1 mA	286-308	1	230 V AC	6.1 mA	286-508	1

**Technical Data**

Accessories see pages 150 ... 151

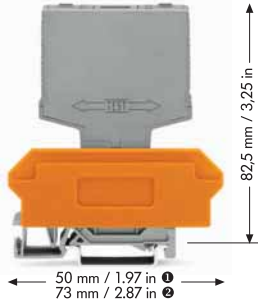
Accessories see pages 150 ... 151

Contact material	AgNi 0.15 + HV	AgNi 0.15 + HV
Max. switching voltage	300 V DC / 250 V AC	300 V DC / 250 V AC
Max. make / break current	16 A / 8 A (10 % continuous duty)	16 A / 8 A (10 % continuous duty)
Max. continuous current	7 A	7 A
Max. Switching power (resistive)	192 W / 1750 VA	192 W / 1750 VA
Pull-in / operating power	261 mW / 533 mW	261 mW / 533 mW
Pull-in/drop-out/bounce time typ.	8 ms / 6 ms / 4 ms	8 ms / 6 ms / 4 ms
Dielectric strength contact-coil (AC, 1 min)	4 kV	4 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Mechanical life	30 x 10 <sup>6</sup> switching operations	30 x 10 <sup>6</sup> switching operations
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations	1 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

**Accessories**

	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①	17 mm / 0.669 in 280-619	1	17 mm / 0.669 in 280-619	1
with 4-conductor terminal blocks, orange separator ②	17 mm / 0.669 in 280-609	1	17 mm / 0.669 in 280-609	1
with 4-conductor terminal blocks, marker plate ②	20 mm / 0.787 in 280-763	1	20 mm / 0.787 in 280-763	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

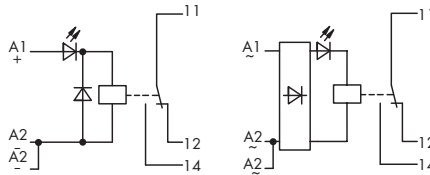
	<b>Relay with 1 changeover contact</b> <b>Contact 5 µm hard gold plated</b>	
<b>Module width 15 mm / 0.591 in</b>		



WSB marker cards

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A2, A2, 11, 12, 14, A1, A2, A2; Item No.: 209-994

5 cards, each containing 10 strips with 10 markers



Description	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit
Switching relay module	24 V DC	21.8 mA	<b>286-394</b>	1
	48 V DC	11.4 mA	<b>286-395</b>	1
	24 V AC/DC	21.8 mA	<b>286-594</b>	1

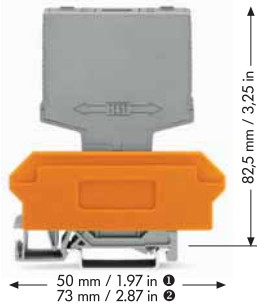
### Technical Data

Accessories see pages 150 ... 151

Contact material	AgNi + 5µ Au
Max. switching voltage	36 V DC
Max. continuous current	1 A
Max. switching power (resistive)	25 W / -
Pull-in / operating power	261 mW / 533 mW
Pull-in/drop-out/bounce time typ.	9 ms / 3 ms / 2 ms
Dielectric strength contact-coil (AC, 1 min)	4 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3
Mechanical life	30 x 10 <sup>6</sup> switching operations
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ❶	17 mm / 0.669 in	<b>280-619</b>		1
with 4-conductor terminal blocks, orange separator ❷	17 mm / 0.669 in	<b>280-609</b>		1
with 4-conductor terminal blocks, marker plate ❸	20 mm / 0.787 in	<b>280-763</b>		1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

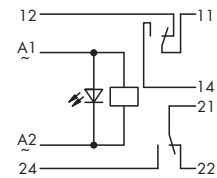
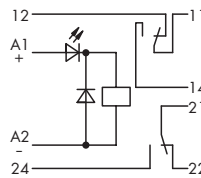
	Relay with 2 changeover contacts	Relay with 2 changeover contacts
	Module width 20 mm / 0.787 in	Module width 20 mm / 0.787 in



WSB marker cards

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking 12, A1, A2, 24, 11, 14, 21, 22; Item No.: 209-995

5 cards, each containing 10 strips with 10 markers



Description	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit
Switching relay module	5/6 V DC	82.8 mA	<b>286-310</b>	1	5/6 V AC	174 mA	<b>286-510</b>	1
	12 V DC	46.1 mA	<b>286-311</b>	1	12 V AC	89 mA	<b>286-511</b>	1
	24 V DC	21.8 mA	<b>286-312</b>	1	24 V AC	47 mA	<b>286-512</b>	1
	48 V DC	10.3 mA	<b>286-313</b>	1	48 V AC	23.3 mA	<b>286-513</b>	1
	60 V DC	8.8 mA	<b>286-314</b>	1	60 V AC	18.1 mA	<b>286-514</b>	1
	115 V DC	4.9 mA	<b>286-315</b>	1	115 V AC	10.5 mA	<b>286-515</b>	1
	220 V DC	5 mA	<b>286-316</b>	1	230 V AC	5.5 mA	<b>286-516</b>	1

### Technical Data

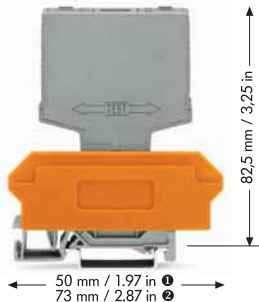
Accessories see pages 150 ... 151

Accessories see pages 150 ... 151

Contact material	Ag Ni 0.15	Ag Ni 0.15
Max. switching voltage	300 V DC / 250 V AC	300 V DC / 250 V AC
Max. make / break current	0.2 s 30 A / 10 A	0.2 s 30 A / 10 A
Max. continuous current	7 A	7 A
Max. Switching power (resistive)	210 W / 1750 VA	210 W / 1750 VA
Pull-in / operating power	600 mW / 1000 mW	0.8 VA / 1 VA
Pull-in/drop-out/bounce time typ.	18 ms / 3 ms / 2 ms	15 ms / 5 ms / 2 ms
Dielectric strength contact-coil (AC, 1 min)	4 kV	4 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Mechanical life	30 x 10 <sup>7</sup> switching operations	30 x 10 <sup>7</sup> switching operations
Mechanical life at max. load (resistance)	2.5 x 10 <sup>5</sup> switching operations	2.5 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①	22 mm / 0.866 in <b>280-638</b>	1	22 mm / 0.866 in <b>280-638</b>	1
with 4-conductor terminal blocks, orange separator ②	22 mm / 0.866 in <b>280-628</b>	1	22 mm / 0.866 in <b>280-628</b>	1
with 4-conductor terminal blocks, marker plate ②	25 mm / 0.984 in <b>280-764</b>	1	25 mm / 0.984 in <b>280-764</b>	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

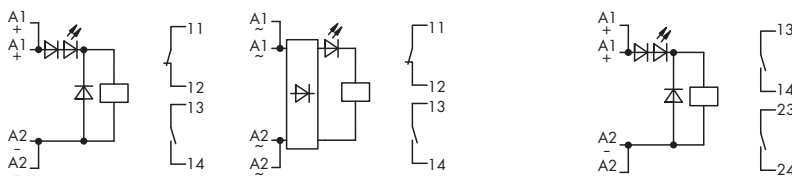
	<b>Relay with 1 break and 1 make contact</b>  <b>Module width 20 mm / 0.787 in</b>	<b>Relay with 2 make contacts</b>  <b>Module width 20 mm / 0.787 in</b>
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**WSB marker cards**

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A1, A2, A2, 11, 12, 13, 14, 23, 24; Item No.: 209-693

5 cards, each containing 10 strips with 10 markers



Description	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit
<b>Switching relay module</b>	5/6 V DC	47.2 mA	<b>286-318</b>	1	5/6 V DC	47.2 mA	<b>286-326</b>	1
	12 V DC	19.9 mA	<b>286-319</b>	1	12 V DC	19.9 mA	<b>286-327</b>	1
	24 V DC	7.4 mA	<b>286-320</b>	1	24 V DC	7.4 mA	<b>286-328</b>	1
	48 V DC	3.9 mA	<b>286-321</b>	1	48 V DC	3.9 mA	<b>286-329</b>	1
	60 V DC	3.9 mA	<b>286-322</b>	1	60 V DC	3.9 mA	<b>286-330</b>	1
	220 V DC	3.7 mA	<b>286-324</b>	1	220 V DC	3.7 mA	<b>286-332</b>	1
	24 V AC	8.3 mA	<b>286-520</b>	1				

**Technical Data**

Accessories see pages 150 ... 151

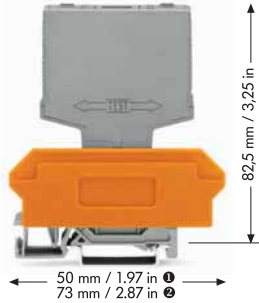
Accessories see pages 150 ... 151

Contact material	Ag Sn O <sub>2</sub>	Ag Sn O <sub>2</sub>
Max. switching voltage	250 V DC / 380 V AC	250 V DC / 380 V AC
Max. make / break current	1 s 15 A / 8 A	1 s 15 A / 8 A
Max. continuous current	6 A	6 A
Max. Switching power (resistive)	150 W / 2000 VA	150 W / 2000 VA
Pull-in / operating power	150 mW / 240 mW	150 mW / 240 mW
Pull-in/drop-out/bounce time typ.	10 ms / 4 ms / 1 ms	10 ms / 4 ms / 1 ms
Dielectric strength contact-coil (AC, 1 min)	3 kV	3 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Mechanical life	5 x 10 <sup>7</sup> switching operations	5 x 10 <sup>7</sup> switching operations
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations	1 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

**Accessories**

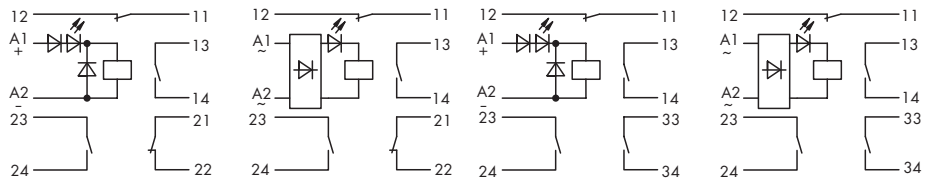
	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①</b>	22 mm / 0.866 in <b>280-638</b>	1	22 mm / 0.866 in <b>280-638</b>	1
<b>with 4-conductor terminal blocks, orange separator ②</b>	22 mm / 0.866 in <b>280-628</b>	1	22 mm / 0.866 in <b>280-628</b>	1
<b>with 4-conductor terminal blocks, marker plate ③</b>	25 mm / 0.984 in <b>280-764</b>	1	25 mm / 0.984 in <b>280-764</b>	1
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>				

	<p><b>Relay with 2 break contacts and 2 make contacts</b></p> <p>Module width 25 mm / 0.984 in</p>	<p><b>Relay with 1 break contact and 3 make contacts</b></p> <p>Module width 25 mm / 0.984 in</p>
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WSB marker cards

- Marking K; Item No.: 209-782
  - Marking 1 ... 10; Item No.: 209-702
  - Marking 12, A1, A2, 23, 24, 11, 13, 14, 21, 22; Item No.: 209-691
  - Marking 12, A1, A2, 23, 24, 11, 13, 14, 33, 34; Item No.: 209-690
- 5 cards, each containing 10 strips with 10 markers



Description	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit
Switching relay module	5/6 V DC	42.3 mA	<b>286-334</b>	1	5/6 V DC	42.3 mA	<b>286-342</b>	1
	12 V DC	22.2 mA	<b>286-335</b>	1	12 V DC	22.2 mA	<b>286-343</b>	1
	24 V DC	8.5 mA	<b>286-336</b>	1	24 V DC	8.5 mA	<b>286-344</b>	1
	48 V DC	5.7 mA	<b>286-337</b>	1	48 V DC	5.7 mA	<b>286-345</b>	1
	60 V DC	5.7 mA	<b>286-338</b>	1	60 V DC	5.7 mA	<b>286-346</b>	1
	115 V DC	6.6 mA	<b>286-339</b>	1	115 V DC	6.6 mA	<b>286-347</b>	1
	24 V AC	11.2 mA	<b>286-536</b>	1	24 V AC	11.2 mA	<b>286-544</b>	1
	230 V AC	16.2 mA	<b>286-540</b>	1	115 V AC	10.6 mA	<b>286-547</b>	1
					230 V AC	16.2 mA	<b>286-548</b>	1

**Technical Data**

Accessories see pages 150 ... 151

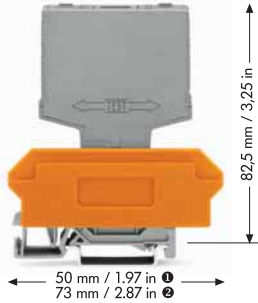
Accessories see pages 150 ... 151

Contact material	AuAg10 over AgNi 15	Au Ag 10 over Ag Ni 15
Max. switching voltage	250 V DC / 250 V AC	250 V DC / 250 V AC
Max. make / break current	20 A / 5 A	20 A / 5 A
Max. continuous current	5 A	5 A
Max. Switching power (resistive)	100 W / 1000 VA	100 W / 1000 VA
Pull-in / operating power	50 mW / 205 mW	50 mW / 205 mW
Pull-in/drop-out/bounce time typ.	8 ms / 5 ms / 1 ms	9 ms / 5 ms / 2 ms
Dielectric strength contact-coil (AC, 1 min)	1.5 kV	1.5 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 2.5 kV / 3	250 V / 2.5 kV / 3
Mechanical life	2 x 10 <sup>8</sup> switching operations	2 x 10 <sup>8</sup> switching operations
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations	1 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

**Accessories**

	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ❶	27 mm / 1.063 in <b>280-639</b>	1	27 mm / 1.063 in <b>280-639</b>	1
with 4-conductor terminal blocks, orange separator	27 mm / 1.063 in <b>280-629</b>	1	27 mm / 1.063 in <b>280-629</b>	1
with 4-conductor terminal blocks, marker plate ❷	30 mm / 1.181 in <b>280-765</b>	1	30 mm / 1.181 in <b>280-765</b>	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

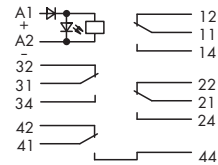
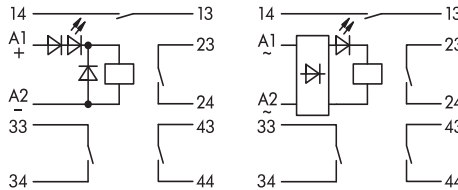
	<b>Relay with 4 make contacts</b>	<b>Relay with 4 changeover contacts</b>
	<b>Module width 25 mm / 0.984 in</b>	<b>Module width 35 mm / 1.378 in</b>



**WSB marker cards**

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking 14, A1, A2, 33, 34, 13, 23, 24, 43, 44; Item No.: 209-692
- Marking A1, A2, 32, 31, 34, 42, 41, 12, 11, 14; Item No.: 249-656

5 cards, each containing 10 strips with 10 markers



Description	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit
<b>Switching relay module</b>	5/6 V DC	42.3 mA	<b>286-350</b>	1	24 V DC	32 mA	<b>286-375</b>	1
	12 V DC	22.2 mA	<b>286-351</b>	1	110/120 V AC	9.2 mA	<b>286-578</b>	1
	24 V DC	8.5 mA	<b>286-352</b>	1	230 V AC	9.9 mA	<b>286-579</b>	1
	48 V DC	5.7 mA	<b>286-353</b>	1				
	60 V DC	5.7 mA	<b>286-354</b>	1				
	115 V DC	6.6 mA	<b>286-355</b>	1				
	24 V AC	11.2 mA	<b>286-552</b>	1				
	115 V AC	10.6 mA	<b>286-555</b>	1				
	230 V AC	16.2 mA	<b>286-556</b>	1				

**Technical Data**

Accessories see pages 150 ... 151

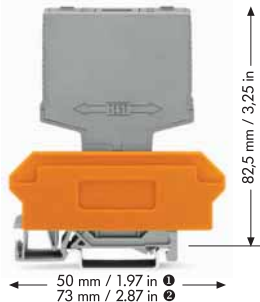
Accessories see pages 150 ... 151

Parameter	25 mm / 0.984 in	35 mm / 1.378 in
Contact material	Au Ag 10 over Ag Ni 15	Ag
Max. switching voltage	250 V DC / 250 V AC	60 V DC / 250 V AC
Max. make / break current	20 A / 5 A	4 A AC / 2 A DC
Max. continuous current	5 A	4 A AC/DC
Max. Switching power (resistive)	100 W / 1000 VA	50 W / 1000 VA
Pull-in / operating power	50 mW / 205 mW	50 mW / 205 mW
Pull-in/drop-out/bounce time typ.	10 ms / 5 ms / 2 ms	6 ms / - / 2 ms
Dielectric strength contact-coil (AC, 1 min)	1.5 kV	1.5 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 2.5 kV / 3	250 V / 4 kV / 3
Mechanical life	2 x 10 <sup>8</sup> switching operations	5 x 10 <sup>7</sup> switching operations
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations	1 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

**Accessories**

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①</b>	27 mm / 1.063 in <b>280-639</b>	1		
<b>with 4-conductor terminal blocks, orange separator ②</b>	27 mm / 1.063 in <b>280-629</b>	1	37 mm / 1.457 in <b>280-636</b>	1
<b>with 4-conductor terminal blocks, marker plate ②</b>	30 mm / 1.181 in <b>280-765</b>	1		
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>				

	<p><b>Relay with 1 make contact for higher DC loads</b></p> <p>Module width 15 mm / 0.591 in</p>	<p><b>Relay with 2 changeover contacts</b> Contacts 5 µm Au</p> <p>Module width 20 mm / 0.787 in</p>
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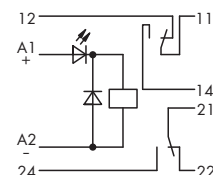
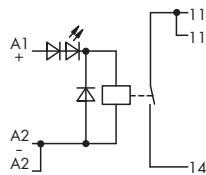


\* In order to prevent the gold layer from being damaged these values should not be exceeded. Higher switching power leads to evaporation of the gold layer. The resulting deposits in the enclosure may cause sparkovers between the coil and the contact.

WSB marker cards

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking 12, A1, A2, 24, 11, 14, 21, 22; Item No.: 209-995

5 cards, each containing 10 strips with 10 markers



Description	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit
Switching relay module	24 V DC	20 mA	286-376	1	24 V DC	19.4 mA	286-384	1

**Technical Data**

Accessories see pages 150 ... 151

Accessories see pages 150 ... 151

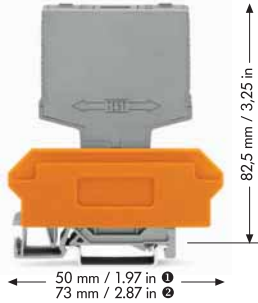
Technical Data	Item No.	Pack. Unit	Item No.	Pack. Unit
Contact material	AgNi 0.15		AgCdO + 5 µm Au	
Max. switching voltage	250 V DC / 250 V AC		36 V DC *	
Max. make current (resistive)	4 s 14A			
Max. break current 250 V DC/ 110 V DC/ 60 V DC	0.6 A / 1.7 A / 5 A		0.6 A / 1.7 A / 5 A	
Recommended minimum load	> 12 V / 10 mA AC/DC		10 µA / 100 mV	
Max. switching rate with / without load	10 min <sup>-1</sup> / 1200 min <sup>-1</sup>			
Max. continuous current	5 A		50 mA *	
Max. Switching power (resistive)	2000 VA			
Max. switching power 250 V DC/ 110 V DC/ 60 V DC	150 W / 187 W / 300 W		150 W / 187 W / 300 W	
Pull-in / operating power	480 mW		500 mW	
Pull-in/drop-out/bounce time typ.	9 ms / 3 ms / 5 ms		9 ms / 3 ms / 3 ms	
Dielectric strength contact-coil (AC, 1 min)	4 kV		4 kV	
Dielectric strength open contact	2 kV		1 kV	
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3		250 V / 4 kV / 3	
Mechanical life	20 x 10 <sup>6</sup> switching operations		1 x 10 <sup>7</sup> switching operations	
Mechanical life at max. load (resistance)			1 x 10 <sup>5</sup> switching operations	
Mechanical life at max. load DC (resistive)	2 x 10 <sup>5</sup> switching operations			
Mechanical life at max. resistive load AC	3 x 10 <sup>5</sup> switching operations			
Ambient operating temperature	-25 °C ... +40 °C		-25 °C ... +40 °C	
Approvals	DIN VDE 01110/1.89 / DIN VDE 0160 and IEC 60255 / DIN VDE 0435 (corresponding parts)			

**Accessories**

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①	17 mm / 0.669 in 280-619	1	22 mm / 0.866 in 280-638	1
with 4-conductor terminal blocks, orange separator ②	17 mm / 0.669 in 280-609	1	22 mm / 0.866 in 280-628	1
with 4-conductor terminal blocks, marker plate ③	20 mm / 0.787 in 280-763	1	25 mm / 0.984 in 280-764	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

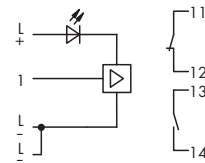
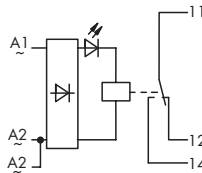


	<b>Switching relay with specified switching treshold:</b> $V_{on} 180 V \pm 10 \%$ $V_{off} 150 V \pm 10 \%$ <b>1 changeover contact</b> <b>Module width 15 mm / 0.591 in</b>	<b>Low power (<math>\geq 7 mW</math>) relay module</b> <b>Low power drive relay (0.3 mA) through amplifier <math>V_{cc} = DC 24 V</math></b> <b>1 break and 1 make contact</b>  <b>Module width 20 mm / 0.787 in</b>
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**WSB marker cards**

- Marking K; Item No.: 209-782
  - Marking 1 ... 10; Item No.: 209-702
  - Marking A1, A2, A2, 11, 12, 14, A1, A2, A2; Item No.: 209-994
  - Marking L+, 1, L-, L-, 11, 12, 13, 14; Item No.: 209-954
- 5 cards, each containing 10 strips with 10 markers

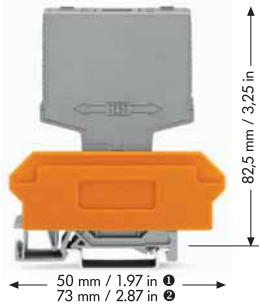


Description	$V_N$	$I_N$	Item No.	Pack. Unit	$V_N$	$I_N$	Item No.	Pack. Unit
Switching relay module	230 V AC	4 mA	286-904	1	24 V DC	10 mA	286-906	1

Technical Data	Accessories see pages 150 ... 151			Accessories see pages 150 ... 151		
Contact material	AgCdO			AgCdO, with gold flash		
Max. switching voltage	250 V DC / 380 V AC			250 V DC / 380 V AC		
Max. make / break current	4 s 25 A / 18 A			1 s 15 A / 8 A		
Max. continuous current	5 A			6 A		
Max. Switching power (resistive)	90 W / 1900 VA			150 W / 2000 VA		
Pull-in / operating power	0.8 VA / 1 VA			150 mW / 240 mW		
Pull-in/drop-out/bounce time typ.	10 ms / 5 ms / 5 ms			10 ms / 4 ms / 1 ms		
Dielectric strength contact-coil (AC, 1 min)	4 kV			3 kV		
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3			250 V / 4 kV / 3		
Mechanical life	5 x 10 <sup>7</sup> switching operations			5 x 10 <sup>7</sup> switching operations		
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations			1 x 10 <sup>5</sup> switching operations		
Ambient operating temperature	-25 °C ... +40 °C			-25 °C ... +40 °C		
Turn-on treshold relay / status indication	180 V ± 10 % / 122 V ± 10 %			-2 V ... 3 V DC		
Turn-off treshold relay / status indication	150 V ± 10 % / 113 V ± 10 %			8 V ... 30 V DC		
Control voltage output 0						
Control voltage output 1						

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①	17 mm / 0.669 in 280-619	1	22 mm / 0.866 in 280-638	1
with 4-conductor terminal blocks, orange separator ②	17 mm / 0.669 in 280-609	1	22 mm / 0.866 in 280-628	1
with 4-conductor terminal blocks, marker plate ②	20 mm / 0.787 in 280-763	1	25 mm / 0.984 in 280-764	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

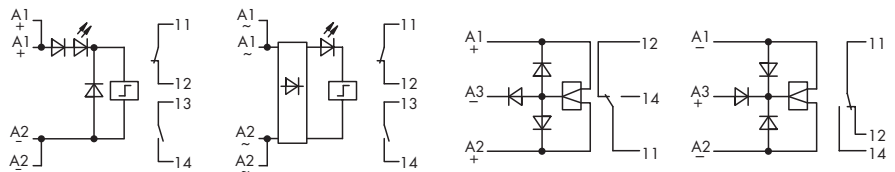
	<b>Latching relay with 1 break contact and 1 make contact</b>  <b>Module width 20 mm / 0.787 in</b>	<b>Bistable relay with 1 changeover contact positive switching, negative switching</b>  <b>Module width 15 mm / 0.591 in</b>
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WSB marker cards

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A1, A2, A2, 11, 12, 13, 14, 23, 24; Item No.: 209-693
- Marking A1, A3, A2, 11, 12, 14; Item No.: 249-607

5 cards, each containing 10 strips with 10 markers



Description	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit	V <sub>N</sub>	I <sub>N</sub>	Item No.	Pack. Unit
Switching relay module	24 V DC	20.9 mA	<b>286-571</b>	1	24 V DC	41.5 mA	<b>286-380</b>	1
	230 V AC	20.9 mA	<b>286-570</b>	1	24 V DC	41.5 mA	<b>286-381</b>	1

**Technical Data**

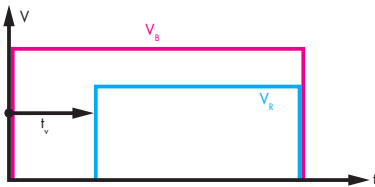
Accessories see pages 150 ... 151

Accessories see pages 150 ... 151

Contact material	AuAg10 over AgNi 15	AgNi 0.15 + HV
Max. switching voltage	30 V DC / 250 V AC	250 V DC / 250 V AC
Max. make / break current	20 A / 5 A	20 A / 8 A
Max. continuous current	5 A	6 A
Max. Switching power (resistive)	100 W / 1000 VA	192 W / 1500 VA
Pull-in / operating power	50 mW / 205 mW	261 mW / 533 mW
Pull-in/drop-out/bounce time typ.	8 ms / 5 ms / 1 ms	9 ms / 3 ms / 2 ms
Dielectric strength contact-coil (AC, 1 min)	1.5 kV	4 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Mechanical life	2 x 10 <sup>8</sup> switching operations	30 x 10 <sup>6</sup> switching operations
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations	1 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

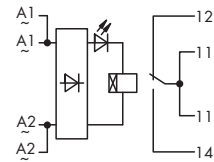
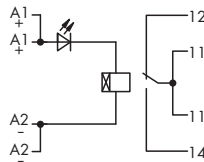
Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ❶	22 mm / 0.866 in <b>280-638</b>	1	17 mm / 0.669 in <b>280-619</b>	1
with 4-conductor terminal blocks, orange separator ❷	22 mm / 0.866 in <b>280-628</b>	1	17 mm / 0.669 in <b>280-609</b>	1
with 4-conductor terminal blocks, marker plate ❸	25 mm / 0.984 in <b>280-764</b>	1	20 mm / 0.787 in <b>280-763</b>	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

	<p><b>On-delay timing 1 changeover contact specified time acc. to IEC 255, part 1</b></p> <p>Module width 20 mm / 0.787 in</p>	<p><b>On-delay timing 1 changeover contact specified time acc. to IEC 255, part 1</b></p> <p>Module width 20 mm / 0.787 in</p>
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$V_B$  = operating voltage;  $V_{St}$  = control voltage;  $V_R$  = voltage on relay;  $t_v$  = delay time

On-delay time relay  
 $V_B$  on A1+ and A2- applied: relay stays in rest position  
 delay time  $t_v$  is over: relay switches to working condition  
 WSB marker cards  
 • Marking K; Item No.: 209-782  
 • Marking 1 ... 10; Item No.: 209-702  
 • Marking A1, A1, A2, A2, 12, 11, 11, 14;  
 Item No.: 209-996  
 5 cards, each containing 10 strips with 10 markers

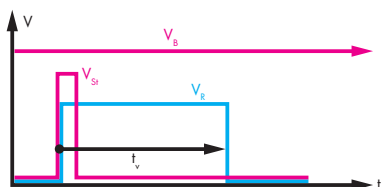


Description	Time range	Item No.	Pack. Unit	Time range	Item No.	Pack. Unit
Time relay module	0.1 - 1 s	286-600	1	0.1 - 1 s	286-610	1
	1 - 10 s	286-602	1	1 - 10 s	286-612	1
	10 - 100 s	286-604	1	10 - 100 s	286-614	1

Technical Data	Accessories see pages 150 ... 151	
Nominal input voltage ( $V_N$ )	24 V DC	230 V AC
Current input at rated voltage (coil 20 °C)	12.5 mA	14.4 mA
Contact material	AgCdO, with gold flash	AgCdO, with gold flash
Max. switching voltage	250 V DC / 380 V AC	250 V DC / 380 V AC
Max. make / break current	1 s 15 A / 5 A	1 s 15 A / 5 A
Max. continuous current	6 A	6 A
Max. Switching power (resistive)	150 W / 2000 VA	150 W / 2000 VA
Operating power	300 mW	3.3 VA
Pull-in/drop-out/bounce time typ.	0 ms / 15 ms / 1 ms	0 ms / 15 ms / 1 ms
Reset time	100 ms	100 ms
Repeat accuracy	±0.5 %	±0.5 %
Dielectric strength contact-coil (AC, 1 min)	3 kV	3 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Mechanical life	5 x 10 <sup>7</sup> switching operations	5 x 10 <sup>7</sup> switching operations
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations	1 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C
Dimensions (mm) L x H x W incl. terminal block	20 x 82.5 x 50	20 x 82.5 x 50

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①	22 mm / 0.866 in 280-638	1	22 mm / 0.866 in 280-638	1
with 4-conductor terminal blocks, orange separator ②	22 mm / 0.866 in 280-628	1	22 mm / 0.866 in 280-628	1
with 4-conductor terminal blocks, marker plate ③	25 mm / 0.984 in 280-764	1	25 mm / 0.984 in 280-764	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

	<b>Pulse lengthening, with trigger voltage 1 changeover contact</b>	
	<b>Module width 20 mm / 0.787 in</b>	



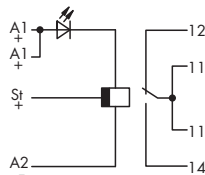
$V_B$  = operating voltage;  $V_{St}$  = control voltage;  $V_R$  = voltage on relay;  $t_v$  = delay time

Pulse lengthening time relay, with auxiliary voltage  $V_B$  on A1+ and A2- applied: relay stays in rest position;  $V_{St}$  - pulse on St+: relay switches to working condition and switches off after  $t_v$  is over.

WSB marker cards

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A1, St, A2, A2, 12, 11, 11, 14; Item No.: 209-601

5 cards, each containing 10 strips with 10 markers



Description	Time range	Item No.	Pack. Unit
Time relay module	0.1 - 1 s	<b>286-426</b>	1
	1 - 10 s	<b>286-427</b>	1
	10 - 100 s	<b>286-428</b>	1

**Technical Data**

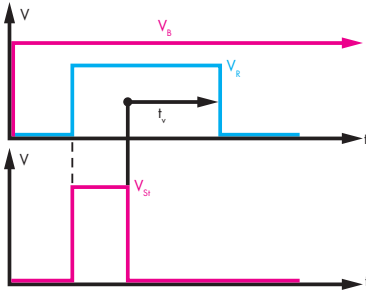
Accessories see pages 150 ... 151

Nominal input voltage ( $V_N$ )	24 V DC
Current input at rated voltage (coil 20 °C)	15.0 mA
Contact material	AgCdO, with gold flash
Max. switching voltage	250 V DC / 380 V AC
Max. make / break current	1 s 15 A / 5 A
Max. continuous current	5 A
Max. Switching power (resistive)	150 W / 2000 VA
Operating power	360 mW
Pull-in/drop-out/bounce time typ.	10 ms / 0 ms / 1 ms
Trigger voltage	24 V DC
Reset time	100 ms
Repeat accuracy	±0.5 %
Dielectric strength contact-coil (AC, 1 min)	3 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3
Mechanical life	$5 \times 10^7$ switching operations
Mechanical life at max. load (resistance)	$1 \times 10^5$ switching operations
Ambient operating temperature	-25 °C ... +40 °C
Dimensions (mm) L x H x W incl. terminal block	20 x 82.5 x 50

**Accessories**

	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①</b>	22 mm / 0.866 in <b>280-638</b>	1
<b>with 4-conductor terminal blocks, orange separator ②</b>	22 mm / 0.866 in <b>280-628</b>	1
<b>with 4-conductor terminal blocks, marker plate ③</b>	25 mm / 0.984 in <b>280-764</b>	1
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>		

	<b>Off-delay timing with trigger voltage</b> <b>1 changeover contact specified time</b> <b>acc. to IEC 255, part 1</b>  <b>Module width 20 mm / 0.787 in</b>	<b>Off-delay timing with trigger voltage</b> <b>1 changeover contact specified time</b> <b>acc. to IEC 255, part 1</b>  <b>Module width 20 mm / 0.787 in</b>
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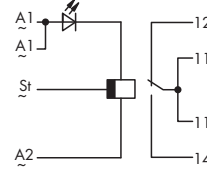
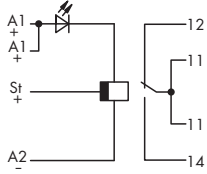
$V_B$  = operating voltage;  $V_{St}$  = control voltage;  $V_R$  = voltage on relay;  $t_v$  = delay time

Off-delay time relay with auxiliary voltage  
 $V_B$  on A1+ and A2- applied: relay stays in rest position;  
 $V_{St}$  on St+ applied: relay switches to working condition  
 $V_B$  interrupted:  $t_v$  is activated;  $t_v$  is over: relay switches off

WSB marker cards

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A1, St, A2, A2, 12, 11, 11, 14; Item No.: 209-601

5 cards, each containing 10 strips with 10 markers

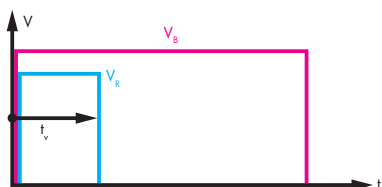


Description	Time range	Item No.	Pack. Unit	Time range	Item No.	Pack. Unit
Time relay module	0.1 - 1 s	286-440	1	0.1 - 1 s	286-446	1
	1 - 10 s	286-442	1	1 - 10 s	286-448	1
	10 - 100 s	286-444	1	10 - 100 s	286-450	1

Technical Data	Accessories see pages 150 ... 151	
Nominal input voltage ( $V_N$ )	24 V DC	230 V AC
Current input at rated voltage (coil 20 °C)	16.0 mA	16.8 mA
Contact material	Ag-Leg., with gold flash	Ag-Leg., with gold flash
Max. switching voltage	250 V DC / 250 V AC	250 V DC / 250 V AC
Max. make / break current	26 A / 5 A	26 A / 5 A
Max. continuous current	5 A	5 A
Max. Switching power (resistive)	100 W / 1250 VA	100 W / 1250 VA
Operating power	400 mW	3.7 VA
Pull-in/drop-out/bounce time typ.	15 ms / 0 ms / 2 ms	15 ms / 0 ms / 2 ms
Trigger voltage	24 V DC	230 V AC
Reset time	15 ms	15 ms
Repeat accuracy	±0.5 %	±0.5 %
Dielectric strength contact-coil (AC, 1 min)	2 kV	2 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 2.5 kV / 3
Mechanical life	5 x 10 <sup>7</sup> switching operations	5 x 10 <sup>7</sup> switching operations
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations	1 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C
Dimensions (mm) L x H x W incl. terminal block	20 x 82.5 x 50	20 x 82.5 x 50

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①	280-638	1	280-638	1
with 4-conductor terminal blocks, orange separator ②	280-628	1	280-628	1
with 4-conductor terminal blocks, marker plate ③	280-764	1	280-764	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

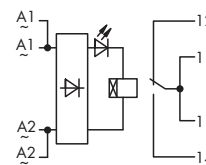
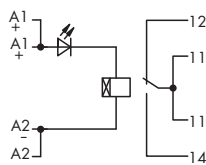
	<p><b>Pulse time delay relay</b>  <b>1 changeover contact specified time</b>  <b>acc. to IEC 255, part 1</b></p> <p><b>Module width 20 mm / 0.787 in</b></p>	<p><b>Pulse time delay relay</b>  <b>1 changeover contact specified time</b>  <b>acc. to IEC 255, part 1</b></p> <p><b>Module width 20 mm / 0.787 in</b></p>
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$V_B$  = operating voltage;  $V_{St}$  = control voltage;  $V_R$  = voltage on relay;  $t_v$  = delay time



Pulse time delay relay  
 $V_B$  on A1+ and A2- applied: relay switches to working condition;  
 $t_v$  is over: relay switches off  
 WSB marker cards  
 • Marking K; Item No.: 209-782  
 • Marking 1 ... 10; Item No.: 209-702  
 • Marking A1, A1, A2, A2, 12, 11, 11, 14;  
 Item No.: 209-996  
 5 cards, each containing 10 strips with 10 markers



Description	Time range	Item No.	Pack. Unit	Time range	Item No.	Pack. Unit
Time relay module	0.1 - 1 s	286-460	1	0.1 - 1 s	286-470	1
	1 - 10 s	286-462	1	1 - 10 s	286-472	1
	10 - 100 s	286-464	1	10 - 100 s	286-474	1

**Technical Data**

Accessories see pages 150 ... 151

Accessories see pages 150 ... 151

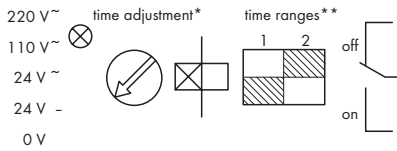
Nominal input voltage ( $V_N$ )	24 V DC	230 V AC
Current input at rated voltage (coil 20 °C)	37.8 mA	39.7 mA
Contact material	AgCdO, with gold flash	AgCdO, with gold flash
Max. switching voltage	250 V DC / 380 V AC	250 V DC / 380 V AC
Max. make / break current	1 s 15 A / 5 A	1 s 15 A / 5 A
Max. continuous current	5 A	5 A
Max. Switching power (resistive)	150 W / 2000 VA	150 W / 2000 VA
Operating power	910 mW	10 VA
Pull-in/drop-out/bounce time typ.	15 ms / 15 ms / 1 ms	15 ms / 15 ms / 1 ms
Reset time	100 ms	100 ms
Repeat accuracy	±0.5 %	±0.5 %
Dielectric strength contact-coil (AC, 1 min)	2.3 kV	3 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 2.5 kV / 3
Mechanical life	5 x 10 <sup>7</sup> switching operations	5 x 10 <sup>7</sup> switching operations
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations	1 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C
Dimensions (mm) L x H x W incl. terminal block	20 x 82.5 x 50	20 x 82.5 x 50

**Accessories**

	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①	22 mm / 0.866 in 280-638	1	22 mm / 0.866 in 280-638	1
with 4-conductor terminal blocks, orange separator ②	22 mm / 0.866 in 280-628	1	22 mm / 0.866 in 280-628	1
with 4-conductor terminal blocks, marker plate ③	25 mm / 0.984 in 280-764	1	25 mm / 0.984 in 280-764	1
Wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

	<b>Multirange timing relay, on-delay</b> <b>4 selectable time ranges,</b> <b>4 voltage ranges</b> <b>1 changeover contact</b>  <b>Module width 25 mm / 0.984 in</b>	
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Time range	0.3-3s	3-12s	10-100s	100-800s	Switch
Switch-position	OFF	ON	ON	OFF	1
	ON	OFF	ON	OFF	2



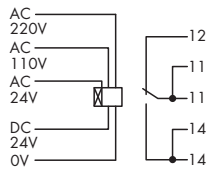
\* with trimming potentiometer; \*\* DIL switch

Within these time ranges, time adjustment can be made with the timing potentiometer.

WSB marker cards

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking U1, U2, U3, U4, 0V, 12, 11, 14, 14; Item No.: 209-951

5 cards, each containing 10 strips with 10 markers



Description	Item No.	Pack. Unit
<b>Multirange timing relay module; on-delay, 4 voltage ranges 230 V AC, 115 V AC, 24 V AC, 24 V DC; 0.3 s ... 3 s, 3 s ... 12 s, 10 s ... 100 s, 100 s ... 800 s</b> <b>Time ranges selectable with DIL switch</b>	<b>286-616</b>	<b>1</b>

**Technical Data**

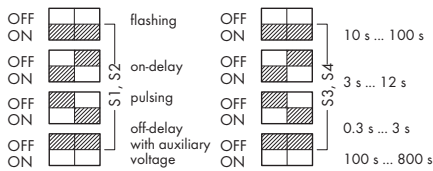
Accessories see pages 150 ... 151

Nominal input voltage (V <sub>N</sub> )	230 V AC, 115 V AC, 24 V AC, 24 V DC
Current input at rated voltage (coil 20 °C)	30.4 mA, 32.6 mA, 20.2 mA, 17.5 mA
Contact material	AgNi with gold flash
Max. switching voltage	30 V DC / 240 V AC
Max. make / break current	5 A / 5 A
Max. continuous current	5 A
Max. Switching power (resistive)	120 W / 600 VA
Pull-in/drop-out/bounce time typ.	0 ms / 15 ms / 3 ms
Reset time	100 ms
Repeat accuracy	±0.5 %
Dielectric strength contact-coil (AC, 1 min)	2 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3
Mechanical life	2 x 10 <sup>7</sup> switching operations
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations
Ambient operating temperature	-25 °C ... +40 °C
Dimensions (mm) L x H x W incl. terminal block	25 x 82.5 x 50

**Accessories**

Accessories	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①</b>	27 mm / 1.063 in <b>280-639</b>	<b>1</b>
<b>with 4-conductor terminal blocks, orange separator ②</b>	27 mm / 1.063 in <b>280-629</b>	<b>1</b>
<b>with 4-conductor terminal blocks, marker plate ②</b>	30 mm / 1.181 in <b>280-765</b>	<b>1</b>
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>		

	<b>Multifunction timing relay</b> <b>4 selectable time ranges,</b> <b>4 functions</b> <b>1 changeover contact</b>  <b>Module width 20 mm / 0.787 in</b>	
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Switch position / Function	Switch position / Time range (s)				
S1	S2	S3	S4		
OFF	OFF	off-delay	OFF	OFF	100 - 800
OFF	ON	pulsing in make pos.	OFF	ON	0,3 - 3
ON	OFF	on-delay	ON	OFF	3 - 12
ON	ON	flashing	ON	ON	10 - 100



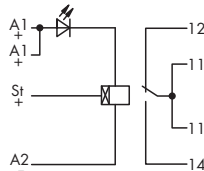
Fine adjustment of time within these time ranges can be made with the trimming potentiometer.

St+ will only be connected for the function „off-delay“ with auxiliary voltage.

WSB marker cards

- Marking K; Item No.: 209-782
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A1, St, A2, A2, 12, 11, 11, 14; Item No.: 209-601

5 cards, each containing 10 strips with 10 markers



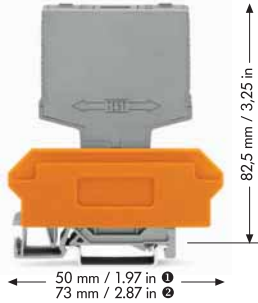
Description	Item No.	Pack. Unit
<b>Multifunction timing relay module; on-delay, off-delay with auxiliary voltage, pulsing in make position, flashing; input voltage DC 24 V; 0.3 s ... 3 s, 3 s ... 12 s, 10 s ... 100 s, 100 s ... 800 s</b> <b>Function and timing range are selected with a DIL switch</b>	<b>286-640</b>	1

Technical Data		Accessories see pages 150 ... 151
Nominal input voltage (V <sub>N</sub> )	24 V DC	
Current input at rated voltage (coil 20 °C)	24 mA	
Contact material	Ag-Leg., with gold flash	
Max. switching voltage	300 V DC / 440 V AC	
Max. make / break current	26 A / 5 A	
Max. continuous current	5 A	
Max. Switching power (resistive)	150 W / 1250 VA	
Pull-in/drop-out/bounce time typ.	0 ms / 0 ms / 2 ms	
Trigger voltage	24 V DC	
Reset time	100 ms	
Repeat accuracy	±1 %	
Dielectric strength contact-coil (AC, 1 min)	3 kV	
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	
Mechanical life	1.5 x 10 <sup>7</sup> switching operations	
Mechanical life at max. load (resistance)	1 x 10 <sup>5</sup> switching operations	
Ambient operating temperature	-25 °C ... +40 °C	
Dimensions (mm) L x H x W incl. terminal block	20 x 82.5 x 50	

Accessories	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①	22 mm / 0.866 in <b>280-638</b>	1
with 4-conductor terminal blocks, orange separator ②	22 mm / 0.866 in <b>280-628</b>	1
with 4-conductor terminal blocks, marker plate ③	25 mm / 0.984 in <b>280-764</b>	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in		



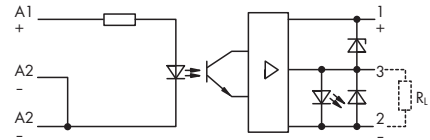
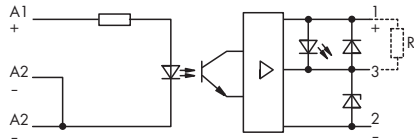
	<b>Optocoupler</b> <b>Input 24 V DC</b> <b>Output 5 V, 15 V, 24 V DC/500 mA</b> <b>Negative switching</b>  <b>Module width 15 mm / 0.591 in</b>	<b>Optocoupler</b> <b>Input 24 V DC</b> <b>Output 5 V, 15 V, 24 V DC/500 mA</b> <b>Positive switching</b>  <b>Module width 15 mm / 0.591 in</b>
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WSB marker cards

- Marking U; Item No.: 209-789
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A2, A2, 1, 3, 2, A1, A2, A2; Item No.: 209-685

5 cards, each containing 10 strips with 10 markers



Description	Output	Item No.	Pack. Unit	Output	Item No.	Pack. Unit
<b>Optocoupler module</b>	5 V DC (3 V ... 6 V DC)	<b>286-700</b>	1	5 V DC (3 V ... 6 V DC)	<b>286-750</b>	1
	15 V DC (10 V ... 20 V DC)	<b>286-701</b>	1	15 V DC (10 V ... 20 V DC)	<b>286-751</b>	1
	24 V DC (20 V ... 30 V DC)	<b>286-702</b>	1	24 V DC (20 V ... 30 V DC)	<b>286-752</b>	1

### Technical Data

Accessories see pages 150 ... 151

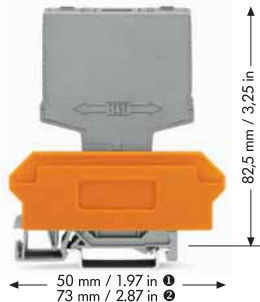
Accessories see pages 150 ... 151

Nominal input voltage (V <sub>N</sub> )	24 V DC	24 V DC
Input voltage range	12 V ... 30 V DC	12 V ... 30 V DC
Input current range	5 mA ... 20 mA DC	5 mA ... 20 mA DC
Current at nominal voltage	15 mA DC	15 mA DC
Reverse voltage transistor / Triac	80 V DC	80 V DC
Max. permissible continuous current	500 mA	500 mA
Switch on / Switch off time	< 5 μs / < 15 μs	< 7 μs / < 15 μs
Max. operating frequency	25 kHz	25 kHz
Leakage current at nominal voltage	2.5 μA	2.5 μA
Collector / emitter voltage drop V <sub>ce sat</sub>	≤ 1.2 V	≤ 1.2 V
Max. output (reverse current)	5 mA ; 10 mA ; 13 mA	5 mA ; 10 mA ; 12 mA
Test voltage input / output	2.5 kV eff.	2.5 kV eff.
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

### Accessories

	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①</b>	17 mm / 0.669 in <b>280-619</b>	1	17 mm / 0.669 in <b>280-619</b>	1
<b>with 4-conductor terminal blocks, orange separator ②</b>	17 mm / 0.669 in <b>280-609</b>	1	17 mm / 0.669 in <b>280-609</b>	1
<b>with 4-conductor terminal blocks, marker plate ②</b>	20 mm / 0.787 in <b>280-763</b>	1	20 mm / 0.787 in <b>280-763</b>	1
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>				

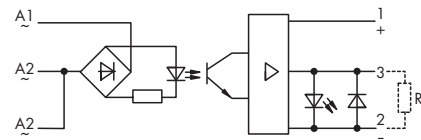
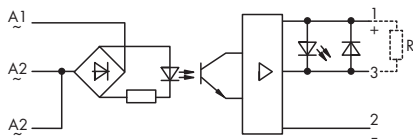
	<b>Optocoupler</b> <b>Input 230 V AC</b> <b>Output 5 V, 15 V, 24 V DC/500 mA</b> <b>Negative switching</b>  <b>Module width 15 mm / 0.591 in</b>	<b>Optocoupler</b> <b>Input 230 V AC</b> <b>Output 5 V, 15 V, 24 V DC/500 mA</b> <b>Positive switching</b>  <b>Module width 15 mm / 0.591 in</b>
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WSB marker cards

- Marking U; Item No.: 209-789
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A2, A2, 1, 3, 2, A1, A2, A2; Item No.: 209-685

5 cards, each containing 10 strips with 10 markers



Description	Output	Item No.	Pack. Unit	Output	Item No.	Pack. Unit
<b>Optocoupler module</b>	5 V DC (3.5 V ... 7 V DC)	<b>286-704</b>	1	5 V DC (3.5 V ... 7 V DC)	<b>286-754</b>	1
	15 V DC (10 V ... 20 V DC)	<b>286-706</b>	1	15 V DC (10 V ... 20 V DC)	<b>286-756</b>	1
	24 V DC (20 V ... 30 V DC)	<b>286-708</b>	1	24 V DC (20 V ... 30 V DC)	<b>286-758</b>	1

**Technical Data**

Accessories see pages 150 ... 151

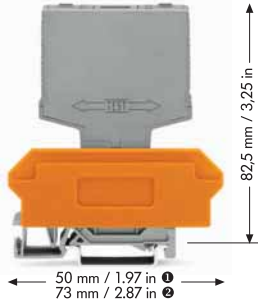
Accessories see pages 150 ... 151

Nominal input voltage (V <sub>N</sub> )	230 V AC	230 V AC
Input voltage range	40 V ... 250 V AC	40 V ... 250 V AC
Input current range	0.2 mA ... 2.9 mA AC	0.2 mA ... 2.9 mA AC
Current at nominal voltage	2.6 mA AC	2.6 mA AC
Reverse voltage transistor / Triac	80 V DC	80 V DC
Max. permissible continuous current	500 mA	500 mA
Switch on / Switch off time	< 10 ms / < 50 ms	< 10 ms / < 40 ms
Leakage current at nominal voltage	2.5 µA	2.5 µA
Collector / emitter voltage drop V <sub>ce sat</sub>	≤ 1.2 V	≤ 1.2 V
Max. output (reverse current)	5 mA ; 6 mA ; 5 mA	5 mA ; 7.5 mA ; 7.5 mA
Test voltage input / output	2.5 kV eff.	2.5 kV eff.
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

**Accessories**

	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①</b>	17 mm / 0.669 in	<b>280-619</b>	17 mm / 0.669 in	<b>280-619</b>
<b>with 4-conductor terminal blocks, orange separator ②</b>	17 mm / 0.669 in	<b>280-609</b>	17 mm / 0.669 in	<b>280-609</b>
<b>with 4-conductor terminal blocks, marker plate ②</b>	20 mm / 0.787 in	<b>280-763</b>	20 mm / 0.787 in	<b>280-763</b>
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>				

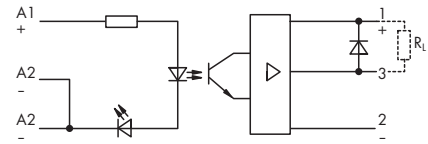
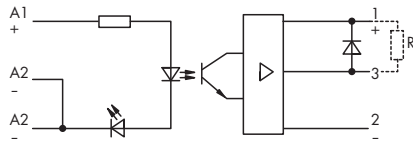
	<b>Optocoupler</b> <b>Input 24 V DC</b> <b>Output 24 V DC/2 A</b> <b>Negative switching</b>  <b>Module width 15 mm / 0.591 in</b>	<b>Optocoupler</b> <b>Input 24 V DC</b> <b>Output 24 V DC/5 A</b> <b>Negative switching</b>  <b>Module width 15 mm / 0.591 in</b>
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WSB marker cards

- Marking U; Item No.: 209-789
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A2, A2, 1, 3, 2, A1, A2, A2; Item No.: 209-685

5 cards, each containing 10 strips with 10 markers

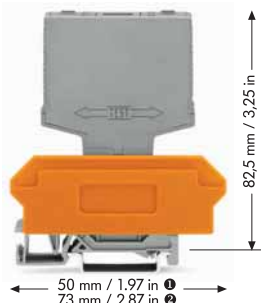


Description	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Optocoupler module</b>	<b>286-720</b>	1	<b>286-721</b>	1

Technical Data	Accessories see pages 150 ... 151		Accessories see pages 150 ... 151	
Nominal input voltage (V <sub>N</sub> )	24 V DC		24 V DC	
Input voltage range	15 V ... 30 V DC		15 V ... 30 V DC	
Input current range	7.5 mA ... 18 mA DC		7.5 mA ... 18 mA DC	
Current at nominal voltage	13.5 mA DC		13.5 mA DC	
Output nominal voltage	24 V DC		24 V DC	
Output voltage range	15 V ... 40 V DC		15 V ... 40 V DC	
Reverse voltage transistor / Triac	50 V DC		50 V DC	
Max. permissible continuous current	2 A		5 A	
Switch on / Switch off time	< 15 µs / < 40 µs		< 20 µs / < 80 µs	
Max. operating frequency	1 kHz		1 kHz	
Leakage current at nominal voltage	2.5 µA		2.5 µA	
Collector / emitter voltage drop V <sub>ce sat</sub>	≤ 0.5 V		≤ 0.5 V	
Test voltage input / output	2.5 kV eff.		2.5 kV eff.	
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3		250 V / 4 kV / 3	
Ambient operating temperature	-25 °C ... +40 °C		-25 °C ... +40 °C	

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①</b>	17 mm / 0.669 in <b>280-619</b>	1	17 mm / 0.669 in <b>280-619</b>	1
<b>with 4-conductor terminal blocks, orange separator ②</b>	17 mm / 0.669 in <b>280-609</b>	1	17 mm / 0.669 in <b>280-609</b>	1
<b>with 4-conductor terminal blocks, marker plate ②</b>	20 mm / 0.787 in <b>280-763</b>	1	20 mm / 0.787 in <b>280-763</b>	1
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>				

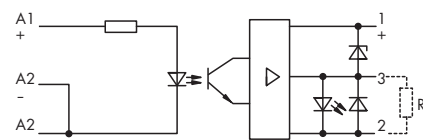
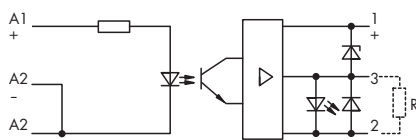
	<b>Optocoupler</b> <b>Input 5 V DC</b> <b>Output 24 V DC/500 mA</b> <b>Positive switching</b>  <b>Module width 15 mm / 0.591 in</b>	<b>Optocoupler</b> <b>Input 24 V DC</b> <b>Output 24 V DC/4 A</b> <b>Positive switching</b>  <b>Module width 15 mm / 0.591 in</b>
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WSB marker cards

- Marking U; Item No.: 209-789
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A2, A2, 1, 3, 2, A1, A2, A2; Item No.: 209-685

5 cards, each containing 10 strips with 10 markers



Description	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Optocoupler module</b>	<b>286-752/002-000</b>	<b>1</b>	<b>286-723</b>	<b>1</b>

### Technical Data

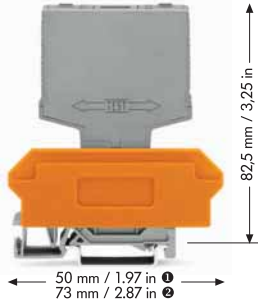
Accessories see pages 150 ... 151

Accessories see pages 150 ... 151

Nominal input voltage (V <sub>N</sub> )	5 V DC	24 V DC
Input voltage range	2 V ... 6.25 V DC	15 V ... 30 V DC
Input current range	3.3 mA ... > 18.5 mA	7.9 mA ... 18 mA DC
Current at nominal voltage	14 mA DC	14 mA DC
Output nominal voltage	24 V DC	24 V DC
Output voltage range	20 V ... 30 V DC	20 V ... 30 V DC
Reverse voltage transistor / Triac	80 V DC	100 V DC
Max. permissible continuous current	500 mA	4 A at 6 R
Switch on / Switch off time	< 5 μs / < 10 μs	≤ 15 μs / ≤ 25 μs
Max. operating frequency	25 kHz	5 kHz
Leakage current at nominal voltage	2.5 μA	2.5 μA
Collector / emitter voltage drop V <sub>ce sat</sub>	≤ 1.2 V	≤ 1.2 V
Max. output (reverse current)	12 mA	12 mA
Test voltage input / output	2.5 kV eff.	2.5 kV eff.
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C
Approvals	IEC 60664 / IEC 60664A / DIN VDE 0110; pollution degree 2; overvoltage category III	

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①</b>	17 mm / 0.669 in <b>280-619</b>	1	17 mm / 0.669 in <b>280-619</b>	1
<b>with 4-conductor terminal blocks, orange separator ②</b>	17 mm / 0.669 in <b>280-609</b>	1	17 mm / 0.669 in <b>280-609</b>	1
<b>with 4-conductor terminal blocks, marker plate ②</b>	20 mm / 0.787 in <b>280-763</b>	1	20 mm / 0.787 in <b>280-763</b>	1
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>				

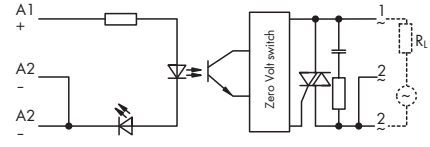
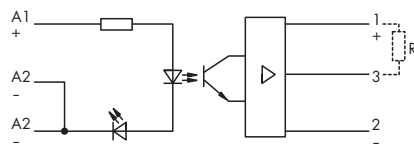
	<b>Optocoupler</b> Input 5 V DC 12 V DC 24 V DC Output 110 V DC/1.6 A Negative switching  Module width 15 mm / 0.591 in	<b>Optocoupler</b> Input 5 V DC 12 V DC 24 V DC Output 230 V AC/50 mA ... 1 A  Module width 15 mm / 0.591 in
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WSB marker cards

- Marking U; Item No.: 209-789
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A2, A2, 1, 3, 2, A1, A2, A2; Item No.: 209-685
- Marking A1, A2, A2, 1, 2, 2, A1, A2, A2; Item No.: 209-686

5 cards, each containing 10 strips with 10 markers

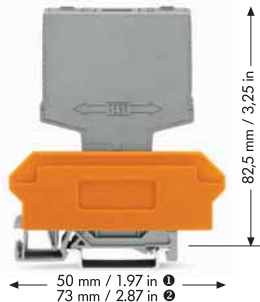


Description	Input	Item No.	Pack. Unit	Input	Item No.	Pack. Unit
<b>Optocoupler module</b>	5 V DC (4.5 V ... 6.5 V DC)	<b>286-726</b>	1	5 V DC (3.5 V ... 7.5 V DC)	<b>286-732</b>	1
	12 V DC (10 V ... 20 V DC)	<b>286-728</b>	1	12 V DC (9 V ... 18 V DC)	<b>286-733</b>	1
	24 V DC (15 V ... 30 V DC)	<b>286-730</b>	1	24 V DC (10 V ... 30 V DC)	<b>286-734</b>	1

Technical Data	Accessories see pages 150 ... 151	
Input current range	6.5 mA ... 20 mA DC 4 mA ... 12 mA DC 3.5 mA ... 8 mA DC	0.5 mA ... 17 mA DC 4 mA ... 11 mA DC 2 mA ... 8 mA DC
Current at nominal voltage	6.5 mA DC 6.4 mA DC 6.2 mA DC	6 mA DC
Output nominal voltage	110 V DC	230 V AC
Output voltage range	99 V ... 121 V DC	24 V ... 280 V AC
Reverse voltage transistor / Triac	150 V DC	600 V AC
Max. permissible continuous current	1.6 A at 69 R	1 A
Switch on / Switch off time	≤ 20 μs / ≤ 0.5 ms	1 half-wave ms / 1 half-wave ms
Max. operating frequency	350 Hz	
Leakage current at nominal voltage	3 μA	5 mA
Collector / emitter voltage drop Vce sat	≤ 0.5 V	
Voltage drop at output		< 1.7 V AC
Test voltage input / output	2.5 kV eff.	2.5 kV eff.
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①</b>	17 mm / 0.669 in <b>280-619</b>	1	17 mm / 0.669 in <b>280-619</b>	1
<b>with 4-conductor terminal blocks, orange separator ②</b>	17 mm / 0.669 in <b>280-609</b>	1	17 mm / 0.669 in <b>280-609</b>	1
<b>with 4-conductor terminal blocks, marker plate ②</b>	20 mm / 0.787 in <b>280-763</b>	1	20 mm / 0.787 in <b>280-763</b>	1
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>				

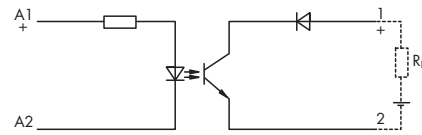
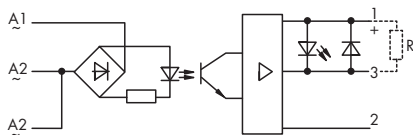
	<b>Optocoupler</b> Input 10 V ... 30 V AC/DC Output 24 V DC/1 mA ... 0.5 A Negative switching  Module width 15 mm / 0.591 in	<b>Optocoupler</b> Input 24 V DC Output 60 V DC/100 mA  Module width 10 mm / 0.394 in
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WSB marker cards

- Marking U; Item No.: 209-789
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A2, A2, 1, 3, 2, A1, A2, A2; Item No.: 209-685
- Marking A1, A2, A2, 1, 2, 2, A1, A2, A2; Item No.: 209-686

5 cards, each containing 10 strips with 10 markers



Description	Item No.	Pack. Unit	Item No.	Pack. Unit
Optocoupler module	286-725	1	286-791	1

Technical Data

Accessories see pages 150 ... 151

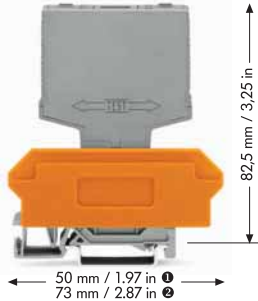
Accessories see pages 150 ... 151

Technical Data	286-725	286-791
Nominal input voltage (V <sub>N</sub> )	10 V ... 30 V AC/DC	24 V DC
Input voltage range	10 V ... 30 V AC/DC	15 V ... 30 V DC
Input current range	2 mA ... 7 mA AC/DC	7.5 mA ... 18 mA DC
Current at nominal voltage		14 mA
Output nominal voltage	24 V DC	60 V DC
Output voltage range	20 V ... 30 V DC	20 V ... 60 V DC
Reverse voltage transistor / Triac	80 V DC	80 V DC
Max. permissible continuous current	500 mA	100 mA
Switch on / Switch off time	< 5 ms / < 30 ms	10 μs / 50 μs
Max. operating frequency		3 kHz
Leakage current at nominal voltage	max. 2.5 μA	2.5 μA
Collector / emitter voltage drop V <sub>ce sat</sub>	≤ 1 V	
Max. output (reverse current)	6.5 mA ... 10 mA DC	
Voltage drop at output		≤ 2 V
Test voltage input / output	2.5 kV eff.	2.5 kV eff.
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

Accessories

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①	17 mm / 0.669 in 280-619	1	12 mm / 0.472 in 280-618	1
with 4-conductor terminal blocks, orange separator ②	17 mm / 0.669 in 280-609	1	12 mm / 0.472 in 280-608	1
with 4-conductor terminal blocks, marker plate ②	20 mm / 0.787 in 280-763	1	15 mm / 0.591 in 280-762	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

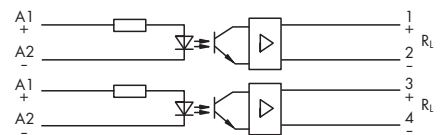
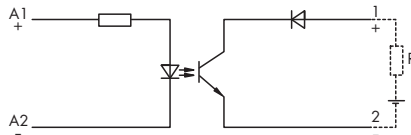
	<b>Optocoupler</b> Input 24 V DC Output 60 V DC/100 mA  Module width 10 mm / 0.394 in	<b>Dual channel optocoupler</b> 2 inputs 2 x 24 V DC 2 outputs 2 x 24 V DC/2 x 250 mA  Module width 20 mm / 0.787 in
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**WSB marker cards**

- Marking U; Item No.: 209-789
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A2, A2, 1, 2, 2, A1, A2, A2; Item No.: 209-686
- Marking A1+, A1+, A2-, A2-, 1, RL1, RL2, 2; Item No.: 209-955
- Marking A1+, A1+, A2-, A2-, 1+, 1+, A, 2-; Item No.: 249-651

5 cards, each containing 10 strips with 10 markers



Description	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Optocoupler module</b>	<b>286-794</b>	1	<b>286-792</b>	1

Technical Data	Accessories see pages 150 ... 151		Accessories see pages 150 ... 151	
Nominal input voltage (V <sub>N</sub> )	24 V DC		24 V DC	
Input voltage range	18 V ... 30 V DC		7.5 V ... 30 V DC	
Input current range	2 mA ... 5 mA DC		4 mA ... 19 mA DC	
Current at nominal voltage	4 mA DC		15 mA DC	
Output nominal voltage	60 V DC		24 V DC	
Output voltage range	20 V ... 60 V DC		20 V ... 30 V DC	
Reverse voltage transistor / Triac	80 V DC		80 V DC	
Max. permissible continuous current	100 mA		250 mA	
Switch on / Switch off time	80 µs / 100 µs		< 60 µs / < 120 µs	
Max. operating frequency	1.5 kHz		1.5 kHz	
Leakage current at nominal voltage	2.5 µA		2.6 µA	
Collector / emitter voltage drop V <sub>ce sat</sub>	≤ 2 V		< 2.5 V	
Voltage drop at output	≤ 2 V		2.5 kV eff.	
Test voltage input / output	2.5 kV eff.		2.5 kV eff.	
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3		250 V / 4 kV / 3	
Ambient operating temperature	-25 °C ... +60 °C		-25 °C ... +40 °C	

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator ①</b>	12 mm / 0.472 in <b>280-618</b>	1	22 mm / 0.866 in <b>280-638</b>	1
<b>with 4-conductor terminal blocks, orange separator ②</b>	12 mm / 0.472 in <b>280-608</b>	1	22 mm / 0.866 in <b>280-628</b>	1
<b>with 4-conductor terminal blocks, marker plate ②</b>	15 mm / 0.591 in <b>280-762</b>	1	25 mm / 0.984 in <b>280-764</b>	1
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>				

	<p><b>Optocoupler with 2 inverted outputs</b>  <b>Input 24 V DC</b>  <b>Output 2 x 24 V DC/500 mA</b></p> <p><b>Module width 20 mm / 0.787 in</b></p>	<p><b>Optocoupler with bridge plug and programmable outputs</b>  <b>Input 24 V DC</b>  <b>Output 24 V DC,</b>  <b>Short-circuit protected, positive switching</b>  <b>Module width 20 mm/ 0.787 in</b></p>
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286-938:

Optocoupler module with short-circuit protected, positive switching output.

Two sockets with plug for programming the output.

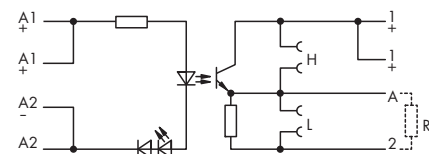
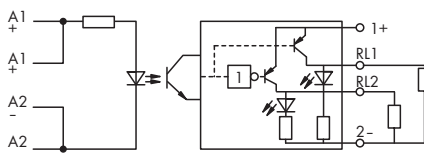
Independent of the input signal the output can be switched over to "H" (high) or "L" (low) by means of a bridge plug (supplied with the module).

The short-circuit protected output is equipped with a current limiter which limits load currents above 800 mA to 200 mA.

The maximum operating time of the current limiter is 60 s.

Status indication:

- Input green LED
- Output yellow LED
- Short circuit red LED



Description	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Optocoupler module</b>	<b>286-790</b>	1	<b>286-938</b>	1

**Technical Data**

Accessories see pages 150 ... 151

Accessories see pages 150 ... 151

Nominal input voltage (V <sub>N</sub> )	24 V DC	24 V DC
Input voltage range	20 V ... 30 V DC	10 V ... 30 V DC
Input current range	7 mA ... 12 mA DC	4 mA ... 19 mA DC
Current at nominal voltage	9 mA DC	14 mA DC
Output nominal voltage	24 V DC	24 V DC
Output voltage range	20 V ... 30 V DC	20 V ... 30 V DC
Reverse voltage transistor / Triac	100 V DC	50 V DC
Max. permissible continuous current	500 mA	300 mA (800 mA max. 30 s)
Switch on / Switch off time	4 µs / 15 µs	< 5 µs / < 25 µs
Max. operating frequency	2.5 kHz	20 kHz at 80 R
Leakage current at nominal voltage	2.5 µA	< 1 µA
Collector / emitter voltage drop V <sub>ce sat</sub>	< 1.2 V	< 1.1 V
Max. output (reverse current)		5.5 mA (Input high, output low); 3 mA (Input low, output low); 11 mA (Output high) programmed with bridge plug
Test voltage input / output	2.5 kV eff.	2.5 kV eff.
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

**Accessories**

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for pluggable modules,</b>				
<b>with 2-conductor terminal blocks, orange separator ①</b>	22 mm / 0.866 in <b>280-638</b>	1	22 mm / 0.866 in <b>280-638</b>	1
<b>with 4-conductor terminal blocks, orange separator ②</b>	22 mm / 0.866 in <b>280-628</b>	1	22 mm / 0.866 in <b>280-628</b>	1
<b>with 4-conductor terminal blocks, marker plate ③</b>	25 mm / 0.984 in <b>280-764</b>	1	25 mm / 0.984 in <b>280-764</b>	1
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14;</b>				
<b>stripped length 8 ... 9 mm / 0.33 in</b>				

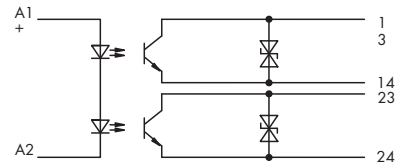
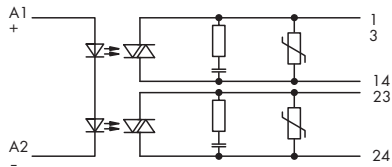


	<p><b>Power optocoupler for S0 current meter interface with AC output</b></p> <p>Module width 20 mm / 0.787 in</p>	<p><b>Power optocoupler for S0 current meter interface with DC output</b></p> <p>Module width 20 mm / 0.787 in</p>
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The optocoupler for the S0 current meter interface sends counter pulses from the supply lines.

Via this interface the user has the possibility to access data which is created by pulse generating current meters with a S0 current meter interface in accordance with DIN 43 864. The user can extract the data without affecting the S0 circuit and use them for their own evaluations, for example, optimizing energy consumption by reducing peak demands.

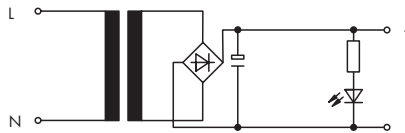


Description	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>S0 interface</b>	<b>286-740</b>	1	<b>286-741</b>	1
<b>Terminal block for pluggable modules, with shunt resistance</b>	22 mm / 0.866 in wide <b>286-740/001-000</b>	1	22 mm / 0.866 in wide <b>286-740/001-000</b>	1

Technical Data	Accessories see pages 150 ... 151	Accessories see pages 150 ... 151
Input current I-Signal (H)	> 10 mA ... < 27 mA	> 10 mA ... < 27 mA
Input current O-Signal (L)	< 2 mA	< 2 mA
Switch-on threshold	> 8.5 mA	> 8.5 mA
Switch-off threshold	< 7 mA	< 7 mA
Transmission frequency		<100 Hz
Input wiring	reverse protection diode	reverse protection diode
Operating voltage range	24 V ... 280 V (50 Hz ... 60 Hz) AC	15 V ... 120 V DC
Peak reverse voltage	600 V AC	200 V DC
Continuous current	2 x 1 A	2 x 750 mA
Surge current t = 20 ms	60 A	3 A
Min. load current	30 mA	
Voltage drop at I max	< 1.2 V	< 1.2 V
Leakage current when turned off	< 2 mA	
Switch on / Switch off time	10 ms / 10 ms	5 ms / 3 ms
Output circuit	RC module / varistor	suppressor diode
Test voltage input / output	2.5 kV eff.	2.5 kV eff.
Wire connection	CAGE CLAMP®	CAGE CLAMP®
Ambient operating temperature	-25 °C ... +60 °C (at 0.4 A continuous current)	-25 °C ... +60 °C (at 200 mA continuous current)
Storage temperature	-40 °C ... +80 °C	-40 °C ... +80 °C
Approvals	DIN VDE 0110	DIN VDE 0110
Mounting position	any	any
Dimensions (mm) L x H x W incl. terminal block	20 x 82.5 x 73	20 x 82.5 x 73

**Supply module  
for passive S0 current meter interface**

Module width 25 mm / 0.984 in

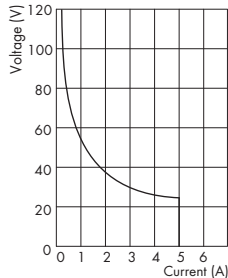


This compact module supplies power to passive S0 current meter interfaces.

Description	Item No.	Pack. Unit
<b>S0 supply module</b>	<b>286-742</b>	1
<b>Technical Data</b>		
Accessories see pages 150 ... 151		
Nominal input voltage (V <sub>N</sub> )	230 V AC	
Frequency	50 Hz	
Max. output voltage DC (acc. to DIN 43 864)	27 V	
Max. output current (acc. to DIN 43 864)	27 mA	
Switch on / Switch off time		
Test voltage input / output	2.5 kV eff.	
Ambient operating temperature	0 °C ... +70 °C	
Storage temperature	-40 °C ... +80 °C	
Approvals	IEC 60664/ IEC 60664A/ DIN VDE 0110; IEC 60742/ EN 60742/ VDE 0551	
Mounting position	any	
Dimensions (mm) L x H x W incl. terminal block	25 x 82.5 x 73	
<b>Accessories</b>		
<b>Terminal block for pluggable modules, with 4-conductor terminal blocks, orange separator</b>	27 mm /	<b>280-629</b>
<b>Wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14;</b>	1.063 in wide	1
<b>Stripped lengths 8 ... 9 mm / 0.33 in</b>		
<b>WSB marker card with marking: +/-</b>	<b>209-552</b>	5

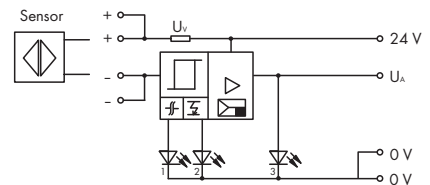
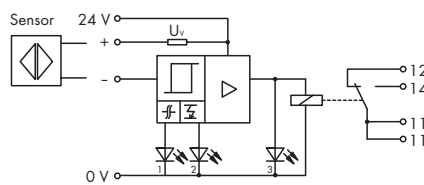
# 1 Pluggable Modules - NAMUR Switching Amplifiers

	<p><b>NAMUR switching amplifier with relay output</b> (the switching amplifier has got an isolated output, e.g. for the connection of a PLC)</p> <p>Module width 20 mm / 0.787 in</p>	<p><b>NAMUR switching amplifier with relay output</b> (the electronic output VA provides the status of the NAMUR sensor)</p> <p>Module width 20 mm / 0.787 in</p>
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NAMUR switching amplifier for the supply of NAMUR sensors and the evaluation and amplification of the sensor signals in accordance with DIN 19234 and DIN 50 227. A line break or a sensor short circuit are monitored by the module and indicated via LEDs.

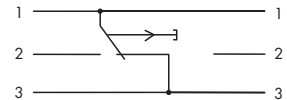
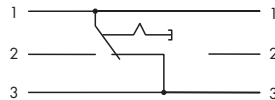
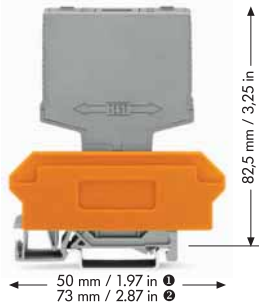
- LED 1 yellow: Line break
- LED 2 yellow: Short circuit
- LED 3 red: Output active



Description	Item No.	Pack. Unit	Item No.	Pack. Unit
NAMUR switching amplifier	286-880	1	286-881	1

Technical Data	Accessories see pages 150 ... 151	Accessories see pages 150 ... 151
Supply voltage $V_B$	24 V DC ( $\pm 10\%$ )	24 V DC ( $\pm 10\%$ )
Nominal input current	20 mA	20 mA
Input	2-wire NAMUR proximity sensor	2-wire NAMUR proximity sensor
Nominal voltage	8 V DC	8 V DC
Current limitation	8 mA	8 mA
Signal current (1)	$\geq 2$ mA	$\geq 2$ mA
Signal current (0)	$\leq 1.7$ mA	$\leq 1.7$ mA
Switching delay	10 ms	10 ms
Max. operating frequency		50 Hz
Short circuit monitoring	$I \geq 7$ mA	$I \geq 7$ mA
Line break monitoring	$I \leq 0.2$ mA	$I \leq 0.2$ mA
Output	relay 1 changeover contact	transistor
Contact material	AgNi 0.15	
Max. switching voltage	250 V AC / 120 V DC	24 V DC
Switching current	3 A	0.5 A
Output voltage $V_A$		22 V $\pm 10\%$
Max. breaking capacity (resistive)	750 VA AC; DC see load limit curve	
Recommended minimum load	100 mA / 10 V AC/DC (1 W, 1VA)	
Pull-in/drop-out/bounce time typ.	8 ms / 5 ms / 4 ms	8 ms / 5 ms / 4 ms
Dielectric strength contact-coil (AC, 1 min)	4 kV	
Dielectric strength open contact	1 kV	
Nominal voltage acc. to VDE 0110 Part 1/4.97,	250 V / 4 kV / 3	
IEC 60664-1		
Mechanical life	$1 \times 10^8$ switching operations	
Mechanical life at max. load (resistance)	$3 \times 10^5$ switching operations	
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C
Storage temperature	-40 °C ... +70 °C	-40 °C ... +70 °C
Approvals	DIN VDE 0160 and IEC 60255, DIN VDE 0435 (corresponding parts) DIN 19234, DIN 50227	DIN VDE 0160 and IEC 60255, DIN VDE 0435 (corresponding parts) DIN 19234, DIN 50227

	<b>1-pole changeover with changeover rocker switch</b>  Module width 15 mm / 0.591 in	<b>1-pole changeover with momentary switch</b>  Module width 15 mm / 0.591 in
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WSB marker card

- Marking S; Item No.: 209-682
- Marking 1 ... 10; Item No.: 209-702

5 cards, each containing 10 strips with 10 markers

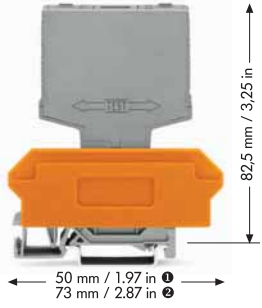
Description	Item No.	Pack. Unit	Item No.	Pack. Unit
Switching module	286-895	1	286-896	1

Technical Data	Accessories see pages 150 ... 151		Accessories see pages 150 ... 151	
Max. switching voltage	24 V DC / 250 V AC		24 V DC / 250 V AC	
Switching current, resistive	6 A AC		6 A AC	
Switching current, inductive	4 A AC		4 A AC	
Electrical life	≥ 50.000 switching operations		≥ 50.000 switching operations	
Contact gap	≥ 3 mm		≥ 3 mm	
Isolation voltage	1250 V		1250 V	
Ambient operating temperature	-20 °C ... +40 °C		-20 °C ... +40 °C	
Approvals	Switch tested acc. to EN 61058-1		Switch tested acc. to EN 61058-1	

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	17 mm / 0.669 in wide 280-619	1	17 mm / 0.669 in wide 280-619	1
with 4-conductor terminal blocks, orange separator	17 mm / 0.669 in wide 280-609	1	17 mm / 0.669 in wide 280-609	1
with 4-conductor terminal blocks, marker plate Ⓞ	20 mm / 0.787 in wide 280-763	1	20 mm / 0.787 in wide 280-763	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

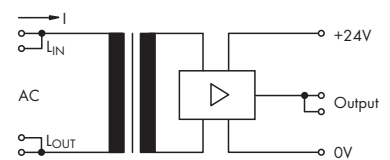
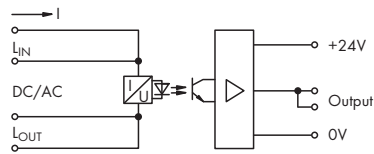
# 1 Pluggable Modules - Current Flow Monitoring

	<b>AC/DC current flow monitoring module</b> 15 mA DC/35 mA ... 300 mA AC  Module width 20 mm / 0.787 in	<b>AC current flow monitoring module</b> 80 mA ... 6 A  Module width 20 mm / 0.787 in
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WSB marker card

- Marking U; Item No.: 209-789
  - Marking 1 ... 10; Item No.: 209-702
  - Marking Lin, Lin, Lout, Lout, 24V, UA, UA, 0V; Item No.: 209-957
- 5 cards, each containing 10 strips with 10 markers



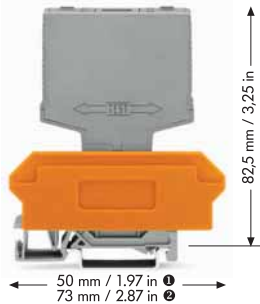
Description	Item No.	Pack. Unit	Item No.	Pack. Unit
Current flow monitoring module	286-659	1	286-661	1

Technical Data	Accessories see pages 150 ... 151		Accessories see pages 150 ... 151	
Current monitoring range	15 mA DC / 35 mA ... 300 mA AC Current < 15/35 mA Output 24 V DC Current > 15/35 mA Output 0 V		80 mA ... 6 A AC Current < 80 mA Output 24 V DC Current > 80 mA Output 0 V	
Voltage range	10 V ... 250 V AC/DC		5 V ... 250 V AC	
Nominal power consumption min / max	45 mW / 900 mW		1 mVA / 2.8 VA	
Voltage drop	3 V		13 mV ... 460 mV	
Response time	5 ms		40 ms	
Operating voltage	24 V DC		24 V DC	
Power consumption	61 mA		41 mA	
Switching current	50 mA		50 mA	
Switching voltage	24 V DC		24 V DC	
Switching power	1.2 W		1.2 W	
Dielectric strength input / output	2 kV		2 kV	
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3		250 V / 4 kV / 3	
Ambient operating temperature	-25 °C ... +40 °C		-25 °C ... +40 °C	
Status indication	Operation: LED = green output LOW, current interruption: LED = red output HIGH		Operation: LED = green output LOW, current interruption: LED = red output HIGH	

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	22 mm / 0.866 in wide 280-638	1	22 mm / 0.866 in wide 280-638	1
with 4-conductor terminal blocks, orange separator	22 mm / 0.866 in wide 280-628	1	22 mm / 0.866 in wide 280-628	1
with 4-conductor terminal blocks, marker plate ②	25 mm / 0.984 in wide 280-764	1	25 mm / 0.984 in wide 280-764	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

# Pluggable Modules - Current Flow Monitoring

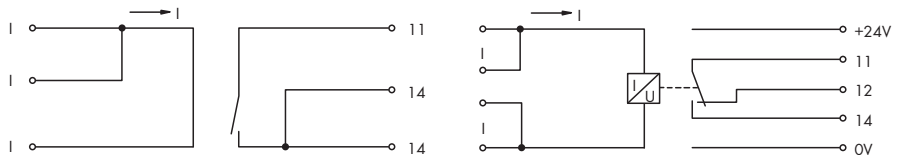
	<b>DC current flow monitoring module</b> 0.4 A ... 3.5 A 1 make contact  Module width 15 mm / 0.591 in	<b>AC current flow monitoring module</b> 0.2 A ... 3 A, adjustable (286-664) 1 A ... 10 A, adjustable (286-665) 1 changeover contact (1 u)  Module width 25 mm / 0.984 in
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**WSB marker card**

- Marking U; Item No.: 209-789
- Marking 1 ... 10; Item No.: 209-702
- Marking Lin, Lin, Lout, 11, 14, 14, Lin, Lin, Lout; Item No.: 249-654
- Marking Lin, Lin, Lout, Lout, 24V, 11, 12, 14, 0V; Item No.: 209-997

5 cards, each containing 10 strips with 10 markers



Description	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Current flow monitoring module</b>	<b>286-662</b>	1	<b>286-664</b>	1
			<b>286-665</b>	1

**Technical Data**

Accessories see pages 150 ... 151

Accessories see pages 150 ... 151

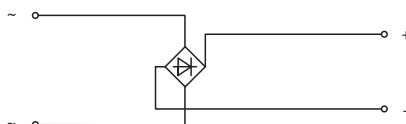
Parameter	DC (286-662)	AC (286-664)	AC (286-665)
Current monitoring range	0.4 A ... 3.5 A DC (-20 °C ... +40 °C); 0.4 A ... 3 A DC (-20 °C ... +60 °C); 0.4 A ... 2 A DC (-20 °C ... +70 °C)	0.2 A ... 3 A AC (286-664)	1 A ... 10 A AC (286-665)
Voltage range	12 V ... 28 V DC		
Nominal power consumption min / max	45 mW / 630 mW	9 mVA / 1.3 VA (286-664)	23 mVA / 8.5 VA (286-665)
Switching threshold		min. 0.2 A (adjustable) (286-664)	min. 1 A (adjustable) (286-665)
Turn on / off point	0.35 A / 0.07 A		
Voltage drop	24 mV ... 210 mV	44 mV ... 430 mV (286-664)	23 mV ... 850 mV (286-665)
Response time	0.5 ms	300 ms (286-664)	200 ms (286-665)
Output	1 make contact	1 changeover contact	
Operating voltage		24 V DC	
Power consumption		17 mA (286-664)	28 mA (286-665)
Switching current	0.5 A	5 A	
Switching voltage	200 V DC	250 V AC	
Switching power	10 W	1250 VA	
Dielectric strength input / output	1.5 kV	1.5 kV	
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1		250 V / 2.5 kV / 2	
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C	
Storage temperature		-40 °C ... +70 °C	
Status indication		Current < switching threshold LED red, Relay switched	


Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator</b>	17 mm / 0.669 in wide <b>280-619</b>	1	27 mm / 1.063 in wide <b>280-639</b>	1
<b>with 4-conductor terminal blocks, orange separator</b>	17 mm / 0.669 in wide <b>280-609</b>	1	27 mm / 1.063 in wide <b>280-629</b>	1
<b>with 4-conductor terminal blocks, marker plate ②</b>	20 mm / 0.787 in wide <b>280-763</b>	1	30 mm / 1.181 in wide <b>280-765</b>	1
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>				



Bridge rectifier for input voltage  
250 V AC/1 A

Module width 10 mm / 0.394 in



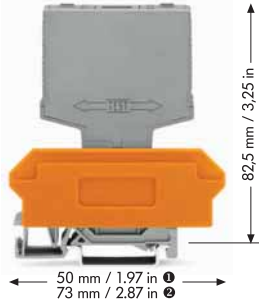
Description	Item No.	Pack. Unit
Bridge rectifiers	280-804/281-419	1
<b>Technical Data</b>		
Accessories see pages 150 ... 151		
Input voltage	250 V AC	
Nominal current	1 A	
Max. charging capacitor	500 µF	
Ambient operating temperature	-25 °C ... +40 °C	
<b>Accessories</b>		
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	12 mm / 0.472 in wide 280-618	1
with 4-conductor terminal blocks, orange separator	12 mm / 0.472 in wide 280-608	1
with 4-conductor terminal blocks, marker plate 	15 mm / 0.591 in wide 280-762	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in		





# Pluggable Modules - Diode Gates

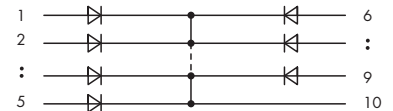
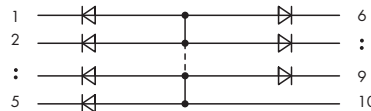
	<b>Diode gate module with 3, 5, 7 or 9 diodes 1 N 4007, common anode</b>  <b>Module width see Item No.</b>	<b>Diode gate module with 3, 5, 7 or 9 diodes 1 N 4007, common cathode</b>  <b>Module width see Item No.</b>
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WSB marker card

- Marking V; Item No.: 209-784
- Marking 1 ... 10; Item No.: 209-702
- Marking +/-; Item No.: 209-652

5 cards, each containing 10 strips with 10 markers



Description	Module width	Item No.	Pack. Unit	Module width	Item No.	Pack. Unit
Diode gate module with 3 diodes	10 mm / 0.394 in	<b>286-803</b>	1	10 mm / 0.394 in	<b>286-813</b>	1
with 5 diodes	15 mm / 0.591 in	<b>286-805</b>	1	15 mm / 0.591 in	<b>286-815</b>	1
with 7 diodes	20 mm / 0.787 in	<b>286-807</b>	1	20 mm / 0.787 in	<b>286-817</b>	1
with 9 diodes	25 mm / 0.984 in	<b>286-809</b>	1	25 mm / 0.984 in	<b>286-819</b>	1

## Technical Data

Accessories see pages 150 ... 151

Accessories see pages 150 ... 151

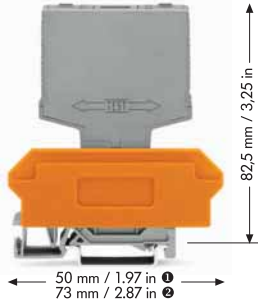
Operating voltage	250 V AC/DC	250 V AC/DC
Peak reverse voltage	1000 V	1000 V
Rectified current for each diode, resistive	1 A	1 A
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	250 V / 4 kV / 3
Ambient operating temperature	-25 °C ... +40 °C	-25 °C ... +40 °C

## Accessories

	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	<b>280-618</b>	1	<b>280-618</b>	1
with 4-conductor terminal blocks, orange separator	<b>280-608</b>	1	<b>280-608</b>	1
with 4-conductor terminal blocks, marker plate Ⓞ	<b>280-762</b>	1	<b>280-762</b>	1
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	<b>280-619</b>	1	<b>280-619</b>	1
with 4-conductor terminal blocks, orange separator	<b>280-609</b>	1	<b>280-609</b>	1
with 4-conductor terminal blocks, marker plate Ⓞ	<b>280-763</b>	1	<b>280-763</b>	1
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	<b>280-638</b>	1	<b>280-638</b>	1
with 4-conductor terminal blocks, orange separator	<b>280-628</b>	1	<b>280-628</b>	1
with 4-conductor terminal blocks, marker plate Ⓞ	<b>280-764</b>	1	<b>280-764</b>	1
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	<b>280-639</b>	1	<b>280-639</b>	1
with 4-conductor terminal blocks, orange separator	<b>280-629</b>	1	<b>280-629</b>	1
with 4-conductor terminal blocks, marker plate Ⓞ	<b>280-765</b>	1	<b>280-765</b>	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

# Pluggable Modules - AND Gate and LED Indicator

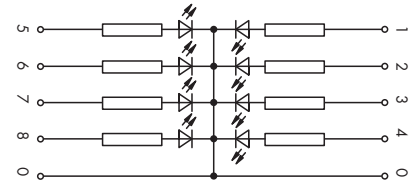
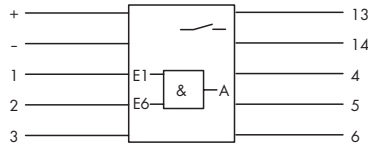
	<b>AND gate module with 6 inputs</b> Relay output with 1 make contact  Module width 25 mm / 0.984 in	<b>LED indicator module with 8 LED, common cathode</b>  Module width 25 mm / 0.984 in
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WSB marker card

- Marking D; Item No.: 209-783
- Marking 1 ... 10; Item No.: 209-702
- Marking +, -, 1, 2, 3, 13, 14, 4, 5, 6; Item No.: 249-608

5 cards, each containing 10 strips with 10 markers



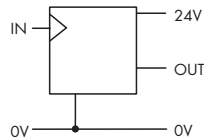
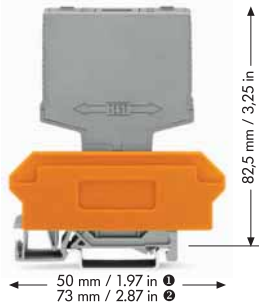
Description	Item No.	Pack. Unit	Item No.	Pack. Unit
Gate module	286-826	1	286-822	1

Technical Data	Accessories see pages 150 ... 151		Accessories see pages 150 ... 151	
Operating voltage	24 V DC		24 V DC	
Operating voltage range	24 V ... 27.5 V DC		20 V ... 26 V DC	
Gate voltage - input	DC 24 V			
Power consumption at V <sub>N</sub>	max. 34.6 mA		5.1 mA each LED	
Relay output	make contact			
Max. switching voltage	250 V AC / 120 V DC			
Max. continuous current	3 A			
Max. Switching power (resistive)	120 W / 750 VA			
Dielectric strength input / output	2.5 kV			
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3			
Ambient operating temperature	-25 °C ... +40 °C		-25 °C ... +40 °C	

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	27 mm / 1.063 in wide 280-639	1	27 mm / 1.063 in wide 280-639	1
with 4-conductor terminal blocks, orange separator	27 mm / 1.063 in wide 280-629	1	27 mm / 1.063 in wide 280-629	1
with 4-conductor terminal blocks, marker plate ②	30 mm / 1.181 in wide 280-765	1	30 mm / 1.181 in wide 280-765	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in				

# Pluggable Modules - Flip-Flop

	<b>Flip-Flop</b> Operating voltage 24 V DC  Module width 15 mm / 0.591 in	
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Description	Item No.	Pack. Unit	Item No.	Pack. Unit
Flip Flop module	286-825	1		

## Technical Data

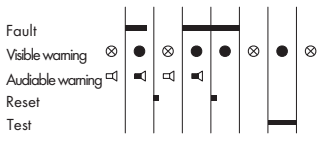
Accessories see pages 150 ... 151

Input voltage	24 V DC (± 10 %)	
Input current	0.25 mA	
Input voltage (High Signal)	> 7 V	
Input voltage (Low Signal)	< 3 V	
Pulse frequency	5 kHz	
Min. output voltage	$V_b - 1.5 V$	
Max. output current	0.5 A	
Operating voltage	24 V DC	
Operating voltage range	20 V ... 30 V DC	
Power consumption	7.5 mA	
Reverse voltage transistor	80 V	
Test voltage input/output	2.5 kV	
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3	
Ambient operating temperature	0 °C ... +55 °C	

## Accessories

	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	280-619	1
with 4-conductor terminal blocks, orange separator	280-609	1
with 4-conductor terminal blocks, marker plate Ø	280-763	1
wire range 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in		

	<b>Fault indicator module with reset</b> <b>Alarm with continuous light with outputs for visible and audible warning</b> <b>Auxiliary and fault indication voltage 230 V AC</b>	<b>Fault indicator module with reset</b> <b>Alarm with continuous light with outputs for visible and audible warning</b> <b>Extensible to collective fault indicator by means of diode gates</b> <b>Auxiliary and fault indication voltage 60 V DC</b>
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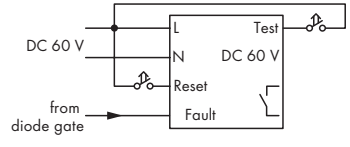
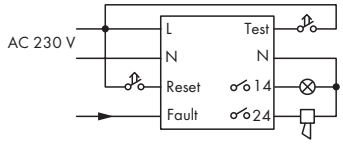
Explanation of signs

Audible warning out on

Visible warning out permanent light



- Accessories for collective fault indication (for 286-684)
- Diode gate 286-813 to 286-819
  - Diode gate 289-111 with common cathode, WSB marker card
  - Marking D; Item No.: 209-783
  - Marking 1 ... 10; Item No.: 209-702
  - Marking L, N, Quitt, Stör, A1, A2, Test, N, 14, 24; Item No.: 249-606
- 5 cards, each containing 10 strips with 10 markers

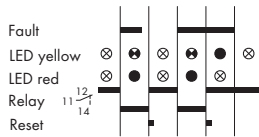


Description	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Fault indicator module with reset</b>	<b>286-681</b>	1	<b>286-684</b>	1

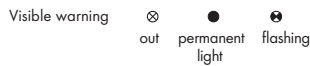
Technical Data	Accessories see pages 150 ... 151		Accessories see pages 150 ... 151	
Nominal voltage	230 V AC		60 V DC / RW ≤ 6%	
Tolerance	-10 % ... +5 %		± 10 %	
Power consumption	15 mA		9 mA	
Output for visible warning	230 V AC / 0.5 A		60 V DC / 0.5 A	
Output for audible warning	230 V AC / 2 A		electrically isolated make contact	
Max. switching voltage			250 V AC	
Max. switching current			2 A	
Max. switching capacity			500 VA	
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3		250 V / 4 kV / 3	
Ambient operating temperature	-25 °C ... +40 °C		-25 °C ... +40 °C	

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator</b>	22 mm / 0.866 in wide <b>280-638</b>	1	22 mm / 0.866 in wide <b>280-638</b>	1
<b>with 4-conductor terminal blocks, orange separator</b>	22 mm / 0.866 in wide <b>280-628</b>	1	22 mm / 0.866 in wide <b>280-628</b>	1
<b>with 4-conductor terminal blocks, marker plate </b>	25 mm / 0.984 in wide <b>280-764</b>	1	25 mm / 0.984 in wide <b>280-764</b>	1
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>				

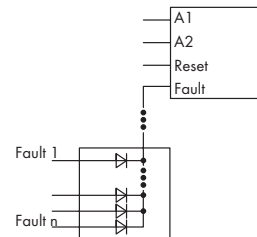
	<b>Fault indicator module with reset</b> Indication of original fault with single flashing light Output for audible warning Visible warning by LED Extensible to collective fault indicator by means of diode gates	
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Explanation of signs



can be used with diode gate



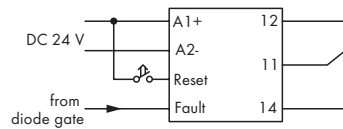
Accessories for collective fault indication

- Diode gate 286-813 to 286-819
- Diode gate 289-111 with common cathode

WSB marker card

- Marking D; Item No.: 209-783
- Marking 1 ... 10; Item No.: 209-702
- Marking A1, A2, Quitt, Stör, 12, 11, 11, 14; Item No.: 249-653

5 cards, each containing 10 strips with 10 markers



Description	Item No.	Pack. Unit
<b>Fault indicator module with reset</b>	<b>286-683</b>	1

**Technical Data**

Accessories see pages 150 ... 151

Nominal voltage	24 V DC / RW ≤ 6%
Tolerance	± 10 %
Power consumption	25 mA
Flashing frequency LED (yellow)	1 Hz
Relay output	1 electrically isolated changeover contact
Max. switching voltage	250 V AC / 120 V DC
Max. switching current	5 A
Max. switching capacity	120 W / 1250 VA
Contact material	AgNi 0.15
Dielectric strength contact-coil (AC, 1 min)	2.5 kV
Nominal voltage acc. to VDE 0110 Part 1/4.97, IEC 60664-1	250 V / 4 kV / 3
Ambient operating temperature	-25 °C ... +40 °C

**Accessories**

Item No.

Pack. Unit

<b>Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator</b>	22 mm / 0.866 in wide	<b>280-638</b>	1
<b>with 4-conductor terminal blocks, orange separator</b>	22 mm / 0.866 in wide	<b>280-628</b>	1
<b>with 4-conductor terminal blocks, marker plate</b>	25 mm / 0.984 in wide	<b>280-764</b>	1
<b>wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; stripped length 8 ... 9 mm / 0.33 in</b>			

# 1 Overview Pluggable Modules – Switching Relays

with an extended input voltage and operating temperature range  $V_N -30 \% \dots +25 \%$  Ambient operating temperature  $-25 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$

Switching relay module



Description	Nominal Input Voltage ( $V_N$ )	Input Voltage Range	Max. Switching Voltage	Module Width	Item No.	Pack. Unit
Switching relay module, Relay with 1 changeover contact	24 V DC	$V_N -30 \% \dots +25 \%$	250 V AC/DC	15 mm / 0.591 in	286-304/004-000	1
Relay with 1 changeover contact	110 V DC	$V_N -30 \% \dots +25 \%$	250 V AC/DC	15 mm / 0.591 in	286-307/004-000	1
Relay with 2 changeover contacts	24 V DC	$V_N -30 \% \dots +25 \%$	250 V AC / 200 V DC	20 mm / 0.787 in	286-312/004-000	1
Relay with 1 break contact and 1 make contact	24 V DC	$V_N -30 \% \dots +25 \%$	250 V AC / 200 V DC	20 mm / 0.787 in	286-320/004-000	1
Relay with 2 make contacts	24 V DC	$V_N -30 \% \dots +25 \%$	250 V AC / 200 V DC	20 mm / 0.787 in	286-328/004-000	1
Relays with 2 make contacts and 2 make contacts	24 V DC	$V_N -30 \% \dots +25 \%$	250 V AC / 200 V DC	25 mm / 0.984 in	286-336/001-000	1
Relay with 3 make contacts and 1 break contact	24 V DC	$V_N -30 \% \dots +25 \%$	250 V AC / 200 V DC	25 mm / 0.984 in	286-344/004-000	1
Relay with 4 make contacts	24 V DC	$V_N -30 \% \dots +25 \%$	250 V AC / 30 V DC	25 mm / 0.984 in	286-352/004-000	1
Relay with 1 make contact	24 V DC	$V_N -30 \% \dots +25 \%$	250 V AC	10 mm / 0.394 in	286-364/004-000	1
Relay with 1 changeover contact	24 V DC	$V_N -30 \% \dots +25 \%$	36 V DC	15 mm / 0.591 in	286-394/004-000	1
Time relay (on-delay timing) with 1 changeover contact	24 V DC	$V_N -30 \% \dots +25 \%$	250 V AC / 200 V DC	20 mm / 0.787 in	286-604/004-000	1
Multifunction timing relay with 1 changeover contact	24 V DC	$V_N -30 \% \dots +25 \%$	250 V AC / 120 V DC	20 mm / 0.787 in	286-640/004-000	1
Relay with 1 break contact and 1 make contact	24 V DC	$V_N -30 \% \dots +25 \%$	250 V AC / 250 V DC	15 mm / 0.591 in	286-906/004-000	1

For additional technical data see: [www.wago.com](http://www.wago.com)

2-conductor terminal block



4-conductor terminal block



Description	Item No.	Pack. Unit	
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	12 mm / 0.472 in wide	280-618	1
with 4-conductor terminal blocks, orange separator	12 mm / 0.472 in wide	280-608	1
with 4-conductor terminal blocks, marker plate	15 mm / 0.591 in wide	280-762	1
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	17 mm / 0.669 in wide	280-619	1
with 4-conductor terminal blocks, orange separator	17 mm / 0.669 in wide	280-609	1
with 4-conductor terminal blocks, marker plate	20 mm / 0.787 in wide	280-763	1
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	22 mm / 0.866 in wide	280-638	1
with 4-conductor terminal blocks, orange separator	22 mm / 0.866 in wide	280-628	1
with 4-conductor terminal blocks, marker plate	25 mm / 0.984 in wide	280-764	1
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	27 mm / 1.063 in wide	280-639	1
with 4-conductor terminal blocks, orange separator	27 mm / 1.063 in wide	280-629	1
with 4-conductor terminal blocks, marker plate	30 mm / 1.181 in wide	280-765	1
Terminal block for pluggable modules, with 4-conductor terminal blocks, orange separator	37 mm / 1.457 in wide	280-636	1

Wire range 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> / AWG 28 ... 14; Stripped lengths 8 ... 9 mm / 0.33 in

# WSB Marker Cards

Miniature quick marking card



Description	Item No.	Pack. Unit
Marking: K	209-782	5 cards
1 ... 10 (10 x)	209-702	5 cards
A1, A2, 13, 14	209-952	5 cards
A1, A2, 11, 12	209-953	5 cards
11, 12, 14, A1, A2, A2, 11, 12, 14	209-994	5 cards
12, A1, A2, 24, 11, 14, 21, 22	209-995	5 cards
A1, A1, A2, A2, 11, 12, 13, 14, 23, 24	209-693	5 cards
12, A1, A2, 23, 24, 11, 13, 14, 21, 22	209-691	5 cards
12, A1, A2, 23, 24, 11, 13, 14, 33, 34	209-690	5 cards
14, A1, A2, 33, 34, 13, 23, 24, 43, 44	209-692	5 cards
A1, A2, 32, 31, 34, 42, 41, 12, 11, 14, 22, 21, 24, 44	249-656	5 cards
L+, 1, L-, L-, 11, 12, 13, 14	209-954	5 cards
A1, A2, A3, 11, 12, 14	249-607	5 cards
A1, A1, A2, A2, 12, 11, 11, 14	209-996	5 cards
A1, A1, St, A2, A2, 12, 11, 11, 14	209-601	5 cards
U1, U2, U3, U4, 0V, 12, 11, 11, 14, 14	209-951	5 cards
U	209-789	5 cards
A1, A2, A2, 1, 3, 2	209-685	5 cards
A1, A2, A2, 1, 2, 2	209-686	5 cards
A1+, A1+, A2-, A2-, 1, RL1, RL2, 2	209-955	5 cards
A1+, A1+, A2-, A2-, 1+, 1+, A, 2-	249-651	5 cards
+/-	209-552	5 cards
1, 2, 3, 0V, +UB, OUT, ERR., 0V	249-622	5 cards
1, 2, 0V, +UB, OUT, ERR., 0V	249-623	5 cards
lin, lin, lout, lout, 24V, UA, UA, 0V	209-957	5 cards
Lin, Lin, Lout, 11, 14, 14, Lin, Lin, Lout	249-654	5 cards
lin, lin, lout, lout, 24V, 11, 12, 14, 0V	209-997	5 cards
S	209-682	5 cards
V	209-784	5 cards
F1 ... F10	209-787	5 cards
D	209-783	5 cards
+, -, 1, 2, 3, 13, 14, 4, 5, 6	249-608	5 cards
L, N, Quitt, Störung, Test, N, 14, 24	249-606	5 cards
A1, A2, Quitt, Störung, 12, 11, 11, 14	249-653	5 cards

5 cards, each containing 10 strips with 10 markers

Colored marker cards



Description	Item No.	Pack. Unit	
Marker cards and tags WSB 4 mm/0.157 in (plain)	white	209-701	5 cards
Marking software and printer/plotter see Section 8	yellow	209-701/000-002	5 cards
	red	209-701/000-005	5 cards
	blue	209-701/000-006	5 cards
	gray	209-701/000-007	5 cards
	orange	209-701/000-012	5 cards
	light green	209-701/000-017	5 cards
	green	209-701/000-023	5 cards
	violet	209-701/000-024	5 cards

5 cards, each containing 10 strips with 10 markers