1.1.4 Solid State Relays

CSS Series

Application	Types	Pins	Contacts	AC ratings	DC ratings	Socket
CSS Series						
AC Solid state relay, Instantaneous switching	CSS-AC			3 A / 250 V		S10
AC Solid state relay synch. to zero crossing	CSS-AZ			3 A / 250 V		S10
NPN Solid state relay	CSS-DCN				2 A / 50 V	S10
PNP Solid state relay	CSS-DCP				2 A / 50 V	S10

IRC series

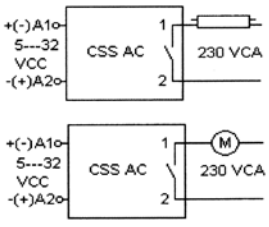
CSS-AC

4-pin, Interface solid state relay, 1-pole, plug-in faston

Type	**CSS-AC** Solid state relay For switching resistive and inductive AC loads Instantaneous
Output	**1 N/O contact**
Operating range	**3 A, 24 ... 250 VAC, 50/60 Hz**
Minimum contact load	**50 mA**
Control circuit	
Input voltage range	5 ... 32 VDC
Release voltage	< 2,5 VDC
Input current	5 ... 15 mA
Stabilised current regulator	yes
Input voltage protection	IEC-1000-4-5 level 1
Output circuit	Instantaneous
Max. output current	3 A
Min. output current	50 mA
Output voltage range	24...250 VAC
Inrush current	30 A/10 ms
Max. release voltage	< 1,5 VAC
Residual current	≤ 0,55 mA
di / dt	≤ 50 A / µs
I^2t value	50 A^2s
Specifications	
Ambient temperature operation/storage	-25 ... 60 °C /-40 ... 80 °C
Test voltage between input/output	4 kV rms/1min
Pick-up time	max. 1/2 wave
Release time	2 ms + 1/2 wave
Weight	28 g

Applications

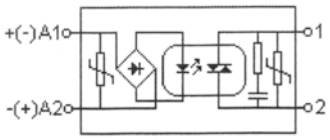
It is specially suitable to switch inductive loads up to 3A/250 VAC.
For switching loads with a high inrush or overcurrent (max. Di/dt 50A/µs) as transformers, motors or fluorescents, the maximum output current will limit to 2 A.



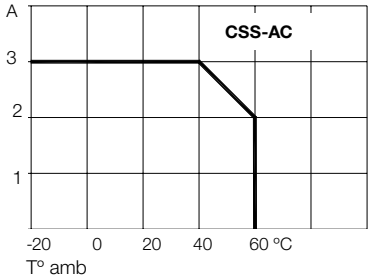
Accessories

Socket:	**S10, S10-M, S10-P**

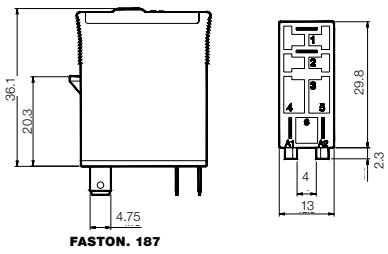
Fig. 1 CSS-AC diagram



Tab. 2 AC derating curve



Dimensions [mm]



Technical approvals, conformities

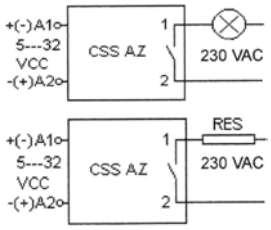
CSS-AZ

4-pin, Interface solid state relay, 1-pole, plug-in faston

Type	**CSS-AZ** Solid state relay For switching resistive lamps and AC loads Synchronized to zero crossing
Output	**1 N/O contact**
Operating range	**3 A, 24 ... 250 VAC, 50/60 Hz**
Minimum contact load	**50 mA**
Control parameters	
Input voltage range	5 ... 32 VDC
Release voltage	< 2,5 VDC
Input current	5 ... 15 mA
Stabilised current regulator	yes
Input voltage protection	IEC-1000-4-5 Level 1
Output	Synchronized zero
Max. output current	3 A
Min. output current	50 mA
Output voltage range	24 ... 250 VAC
Inrush current	30 A/10 ms
Max. release voltage	< 1,5 VAC
Residual current	≤ 0,55 mA
di / dt	≤ 50 A / µs
I^2t value	50 A^2s
Specifications	
Ambient temperature operation/storage	-25….60 ºC /-40 ... 80 °C
Test voltage between input/output	4 kV rms/1min
Pick-up time	max. 1/2 cycle
Release time	2 ms + 1/2 cycle
Weight	28 g

Applications

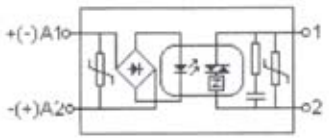
Switches ohmic AC loads up to 3 A/250 VAC in the zero-point of the tension and avoids any overcurrent peak in the connection.
Suitable for switching resistors, incandescent lamps, signalling equipment, etc. Not suitable for inductive loads



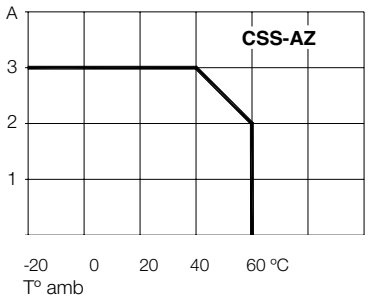
Accessories

Socket:	**S10, S10-M, S10-P**

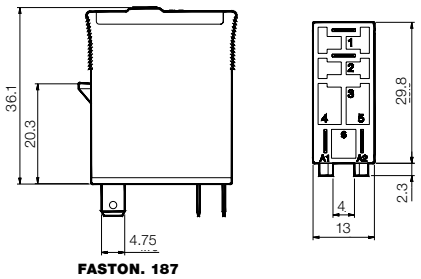
Fig. 1 CSS-AZ diagram



Tab. 2 AC derating curve



Dimensions [mm]



Technical approvals, conformities

IRC series

CSS-DCN

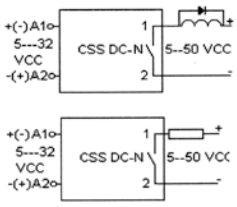
4-pin, Interface solid state relay, 1-pole, plug-in faston

Type	**CSS-DCN** NPN solid state relay Terminal commun 2 negative (S10 socket)
Output	1 N/O contact
Operating range	**2 A, 5 ... 50 VDC**
Minimum contact load	**1 mA**
Control parameters	
Input voltage range	5 ... 32 VDC
Release voltage	< 2,5 VDC
Input current	3 ± 1 mA
Stabilised current regulator	yes
Input voltage protection	IEC-1000-4-5 Level 1
Output	
Type	NPN
Max. output current	2 A
Output voltage range	5 ... 50 VDC
Switch-on current max.	5 A/ 350µs
Max. voltage drop	≤ 1,3 VDC
Residual current	< 100 µA/48 VDC
EMC protection	IEC-1000-4-5 Level 1
Inverse current	≤ 1 A
Specifications	
Ambient temperature operation/storage	-25 ... 60 °C/-40 ... 80 °C
Test voltage between input/output	4 kV rms/1 min.
Turn-on delay	1 ms
Release delay	≤ 2 ms
Weight	28 g

Applications

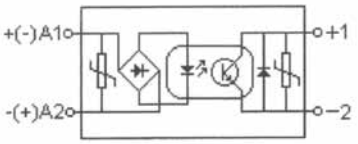
For switching heating elements, electro valves, motors, PLC input/output signals, solenoids, incandescent and fluorescent lamps, etc. (up to 50 VDC).

Inductive loads must be shunted with an antiparallel diode.



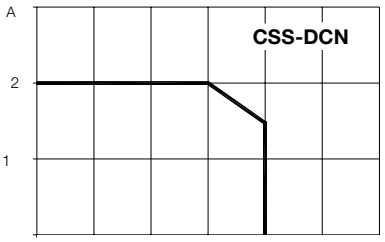
Accessories	
Socket:	**S10, S10-M, S10-P**

Fig. 1 CSS-DCN diagram

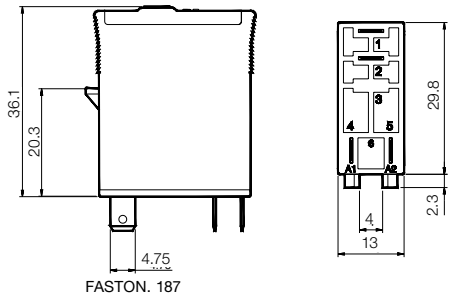


Negative common

Tab. 2 DC derating curve



Dimensions [mm]



Technical approvals, conformities

CSS-DCP

4-pin, Interface solid state relay, 1-pole, plug-in faston

Type	**CSS-DCP** PNP solid state relay Terminal commun 2 positive (S10 socket)
Output	1 N/O contact
Operating range	**2 A, 5 ... 50 VDC**
Minimum contact load	**1 mA**

Control parameters	
Input voltage range	5 ... 32 VDC
Release voltage	< 2,5 VDC
Input current	3 ± 1 mA
Stabilised current regulator	yes
Input voltage protection	IEC-1000-4-5 Level 1

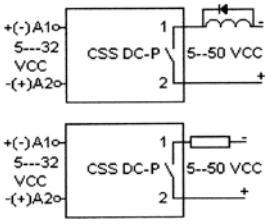
Output	
Type	PNP
Max. output current	2 A
Output voltage range	5 ... 50 VDC
Max. switch-on current	5 A/ 350µs
Max. voltage drop	≤ 1,3 VDC
Residual current	< 100 µA/48 VDC
EMC protection	IEC-1000-4-5 Level 1
Inverse current	≤ 1 A

Specifications	
Ambient temperature operation/storage	-25....60 °C /-40 ... 80 °C
Test voltage between input/output	4 kV rms/1 min.
Turn-on delay	1 ms
Release delay	≤ 2 ms
Weight	28 g

Applications

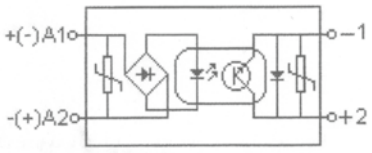
For switching heating elements, electro valves, motors, PLC input/output signals, solenoids, incandescent and fluorescent lamps, etc. (up to 50 VDC).

Inductive loads must be shunted with an antiparallel diode.



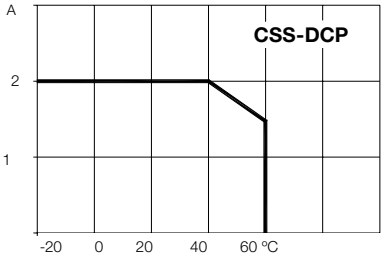
Accessories	
Socket:	**S10, S10-M, S10-P**

Fig. 1 CSS-DCP diagram

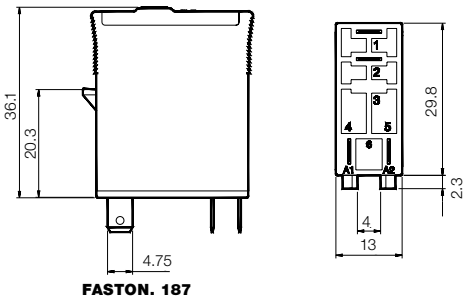


Positive common

Tab. 2 DC derating curve



Dimensions [mm]



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Technical approvals, conformities