

1.1.3 Interface Relays

IRC Series



Application	Types	Pins	Contacts	AC ratings	DC ratings	Socket
C10 Series						
Interface standard relay	C10-A1x			10 A / 250 V	10 A / 30 V	S10
DC load switching	C10-G1x			10 A / 250 V	10 A / 30 V	S10
Low switching load	C10-T1xx			6 A / 250 V	6 A / 30 V	S10
Low switching load	C10-GTxx			6 A / 250 V	6 A / 30 V	S10
C12 Series						
Interface relay	C12-A2x			5 A / 250 V	5 A / 30 V	S12
Interface DC relay	C12-G2x			5 A / 250 V	5 A / 30 V	S12

Type	C10-A1x/ ... V Standard relay, 1 change-over contact Contact Ag Sn O2 to high inrush		
Maximum contact load	10 A/250 V AC1	0,5 A/110 V DC1	
	10 A/30 V DC1	0,2 A/220 V DC1	
	13 A/250 V AC1		
Recommended minimum contact load	10 mA/10 V Code 0,5		
	5 mA/5 V Code 8		

Contacts			
Material	Standard	Code 0	AgNi
	Optional	Code 8	AgNi+ 10 μ Au
	Optional	Code 5	Ag Sn O2
Rated current			10 A
Switch-on current max. (20 ms)			30 A (120 A for code 5)
Switching voltage max.			250 V
AC load (Fig 1)			2,5 kVA
DC load			see fig. 2

Coil	
Coil resistance	see table; tolerance ± 10 %
Pick-up voltage	≤ 0,8 x U _N
Release voltage	≥ 0,1 x U _N
Nominal power	1,1 VA (AC)/0,7 W (DC)

Coil table					
VAC	Ω	mA	VDC	Ω	mA
24	290	45	12	224	53
48	1200	23	24	742	32
115	7.300	9,5	48	3.500	13,7
230	28.800	4,7	110	19.900	5,5

Insulation	Volt rms, 1 min
Contact open	1000 V
Contact/coil	5 kV
Insulation resistance at 500 V	≥ 1 GΩ
Insulation, IEC 61810-1	4 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...70 °C / -40 ... 80 °C
Pick-up time/bounce time	10 ms/ ≤ 1 ms
Release time/bounce time	5 ms/ ≤ 3 ms
Mechanical life ops	AC: 10 Mill./DC: 20 Mill.
DC voltage endurance at rated load	≥ 100000 switching cycles
Switching frequency at rated load	≤ 1200/h
Protection class	IP40
Weight	21 g

Standard types			
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C10-A10/AC...V	C10-A18/AC...V	C10-A15/AC...V
LED	C10-A10X/AC...V	C10-A18X/AC...V	C10-A15X/AC...V
RC suppressor	C10-A10R/AC...V	C10-A18R/AC...V	C10-A15R/AC...V
VDC 12, 24, 48, 110	C10-A10/DC...V	C10-A18/DC...V	C10-A15/DC...V
LED	C10-A10X/DC...V	C10-A18X/DC...V	C10-A15X/DC...V
Polarity and free wheeling diode	C10-A10FX/DC...V	C10-A18FX/DC...V	C10-A15FX/DC...V
VAC/DC bridge rectifier 24 V, 48 V	C10-A10BX/UC...V	C10-A18BX/UC...V	C10-A15BX/UC...V

"..." Enter the voltage for full type designation

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



Connection diagram

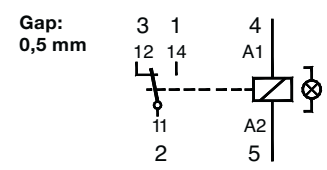


Fig. 1 AC voltage endurance

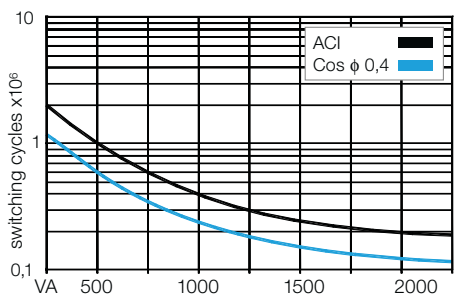
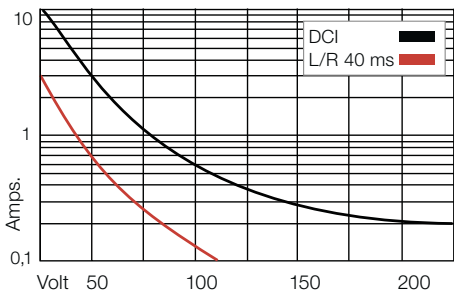
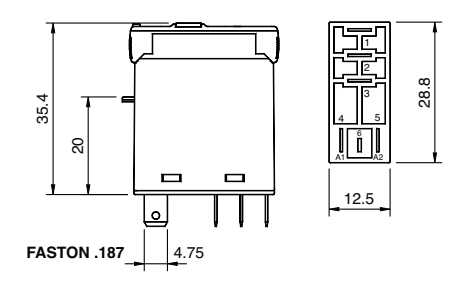


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

Type	C10-G1X/ ... V Standard relay 1 open contact for high DC load Contact Ag Sn O2 to high inrush		
Maximum contact load	10 A/250 V AC1	0,8 A/110 V DC1	
	10 A/30 V DC1	0,4 A/220 V DC1	
Recommended minimum contact load	10 mA/10 V Code 0,5		
	5 mA/5 V Code 8		

Contacts			
Material	Standard	Code 0	AgNi
	Optional	Code 8	AgNi +10 μ Au
	Optional	Code 5	Ag SnO2
Rated current			10 A
Switch-on current max. (20 ms)			30 A (120 A for code 5)
Switching voltage max.			250 V
AC load (Fig 1)			2,5 kVA
DC load			see Fig. 2

Coil			
Coil resistance			see table; tolerance ± 10 %
Pick-up voltage			≤ 0,8 x U _N
Release voltage			≥ 0,1 x U _N
Nominal power			1,1 VA (AC)/0,7 W (DC)

Coil table					
VAC	Ω	mA	VDC	Ω	mA
24	290	45	12	224	53
48	1200	23	24	742	32
115	7.300	9,5	48	3.500	13,7
230	28.800	4,7	110	19.900	5,5

Insulation		Volt rms, 1 min
Contact open		2000 V
Contact/coil		5 kV
Insulation resistance at 500 V		≥ 1 GΩ
Insulation, IEC 61810-1		4 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...70 °C /-40 ... 80 °C
Pick-up time/bounce time	10 ms/≤ 1 ms
Release time/bounce time	8 ms
Mechanical life ops	AC: 10 Mill./DC: 20 Mill.
DC voltage endurance at rated load	≥ 100000 switching cycles
Switching frequency at rated load	≤ 1200/h
Protection class	IP40
Weight	21 g

Standard types		
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C10-G10/AC ... V	C10-G15/AC ... V
LED	C10-G10X/AC ... V	C10-G15X/AC ... V
RC suppressor	C10-G10R/AC...V	C10-G15R/AC...V
VDC 12, 24, 48, 110	C10-G10/DC ... V	C10-G15/DC ... V
LED	C10-G10X/DC ... V	C10-G15X/DC ... V
Polarity and free wheeling diode	C10-G10FX/DC ... V	C10-G15FX/DC... V
AC/DC bridge rectifier 24 V, 48 V	C10-G10BX/DC ... V	C10-G15BX/UC... V

"..." Enter the voltage for full type designation

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



Connection diagram

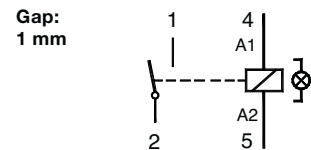


Fig. 1 AC voltage endurance

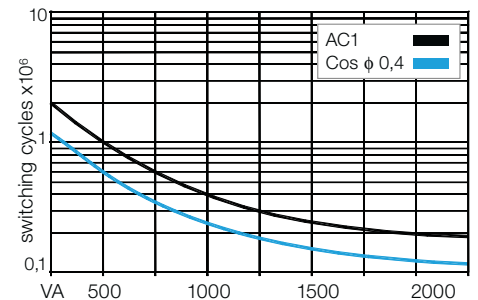
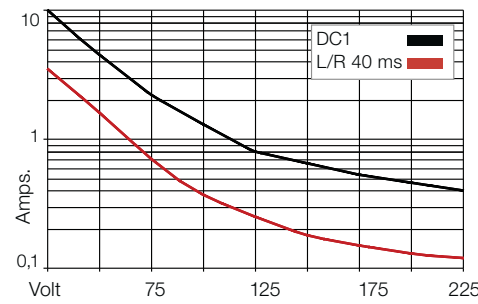
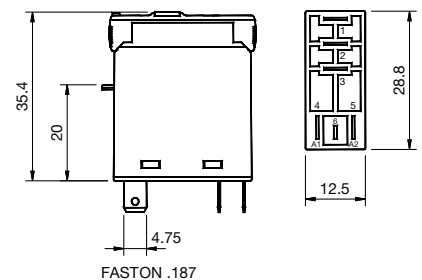


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

Type	C10-T1x/ ... V Standard relay for low power application			
Maximum contact load	6 A/250 V	AC1	0,5 A/110 V	DC1
	6 A/30 V	DC1	0,2 A/220 V	DC1
Recommended minimum contact load	5 mA/5 V	Code 3		
	1 mA/5 V	Code 2		

Contacts			
Material	Standard	Code 3	AgNi + 3 μ Au
	Optional	Code 2	AgNi + 10 μ Au
Rated current	6 A		
Switch-on current max. (20 ms)	15 A		
Switching voltage max	250 V		
AC load (Fig 1)	1,5 kVA		
DC load	see fig. 2		

Coil			
Coil resistance	see table; tolerance ± 10 %		
Pick-up voltage	≤ 0,8 × U _N		
Release voltage	≥ 0,1 × U _N		
Nominal power	1,1 VA (AC)/0,7 W (DC)		

Coil table	VAC	Ω	mA	VDC	Ω	mA
	24	290	45	12	224	53
	48	1200	23	24	742	32
	115	7.300	9,5	48	3.500	13,7
	230	28.800	4,7	110	19.900	5,5

Insulation	Volt rms, 1 min
Contact open	1000 V
Contact/coil	5 kV
Insulation resistance at 500 V	≥ 1 GΩ
Insulation, IEC 61810-1	4 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...70 °C /-40 ... 80 °C
Pick-up time/bounce time	10 ms/≤ 1 ms
Release time/bounce time	5 ms/≤ 3 ms
Mechanical life ops	AC: 10 Mill./DC: 20 Mill.
DC voltage endurance at rated load	≥ 100000 switching cycles
Switching frequency at rated load	1200/h
Protection class	IP40
Weight	21 g

Standard types		
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C10-T13/AC ... V	C10-T12/AC ... V
LED	C10-T13X/AC ... V	C10-T12X/AC ... V
RC suppresor	C10-T13R/AC...V	C10-T12R/AC...V
VDC12, 24, 48, 110	C10-T13/DC ... V	C10-T12/DC ... V
LED	C10-T13X/DC ... V	C10-T12X/DC ... V
Polarity and free wheeling diode	C10-T13FX/DC ... V	C10-T12FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V	C10-T13BX/UC ... V	C10-T12BX/UC ... V

"..." Enter the voltage for full type designation

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



Connection diagram

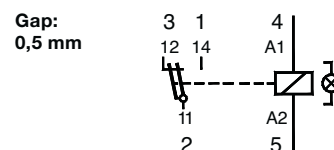


Fig. 1 AC voltage endurance

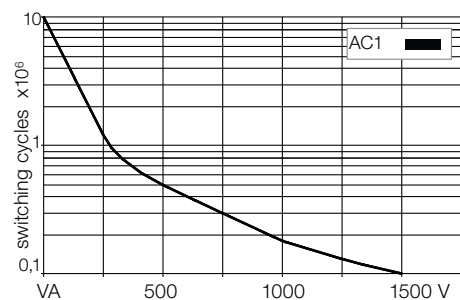
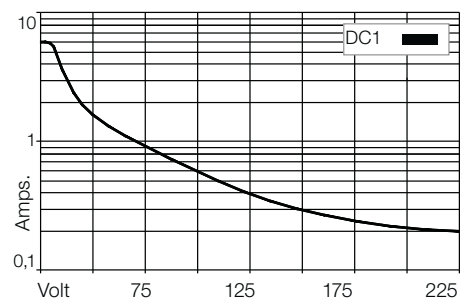
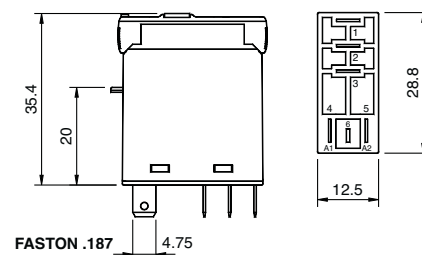


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

Type	C10-GT1x/ ... V Standard relay for low power application 1 open contact			
Maximum contact load	6 A/250 V AC1	0,8 A/110 V DC1		
	6 A/30 V DC1	0,4 A/220 V DC1		
Recommended minimum contact load	5 mA/5 V Code 3			
	1 mA/5 V Code 2			

Contacts				
Material	Standard	Code 3	AgNi + 3 μ	
	Optional	Code 2	AgNi + 10 μ Au	
Rated current	6 A			
Switch-on current max. (20 ms)	15 A			
Switching voltage max	250 V			
AC load (Fig 1)	1,5 kVA			
DC load	see Fig. 2			

Coil				
Coil resistance	see table; tolerance ± 10 %			
Pick-up voltage	≤ 0,8 x U _N			
Release voltage	≥ 0,1 x U _N			
Nominal power	1,1 VA (AC)/0,7 W (DC)			

Coil table					
VAC	Ω	mA	VDC	Ω	mA
24	290	45	12	224	53
48	1200	23	24	742	32
115	7.300	9,5	48	3.500	13,7
230	28.800	4,7	110	19.900	5,5

Insulation		Volt rms, 1 min
Contact open	2000 V	
Contact/coil	5 kV	
Insulation resistance at 500 V	≥ 1 GΩ	
Insulation, IEC 61810-1	4 kV/3	

Specifications	
Ambient temperature operation/storage	-40 (no ice)...70 °C /-40 ... 80 °C
Pick-up time/bounce time	10 ms/≤ 1 ms
Release time/bounce time	5 ms/≤ 3 ms
Mechanical life ops	AC: 10 Mill./DC: 20 Mill.
DC voltage endurance at rated load	≥ 100000 switching cycles
Switching frequency at rated load	≤ 1200/h
Protection class	IP40
Weight	21 g

Standard types		
VAC 50 Hz/60 Hz: 24, 48, 115, (120), 230, (240)	C10-GT13/AC ... V	C10-GT12/AC ... V
LED	C10-GT13X/AC ... V	C10-GT12X/AC ... V
RC suppresor	C10-GT13R/AC ... V	C10-GT12R/AC ... V
VDC 12, 24, 48, 110	C10-GT13/DC ... V	C10-GT12/DC ... V
LED	C10-GT13X/DC ... V	C10-GT12X/DC ... V
Polarity and free wheeling diode	C10-GT13FX/DC ... V	C10-GT12FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V	C10-GT13BX/UC ... V	C10-GT12BX/UC ... V

"..." Enter the voltage for full type designation

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



Connection diagram

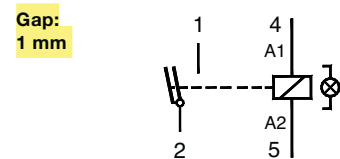


Fig. 1 AC voltage endurance

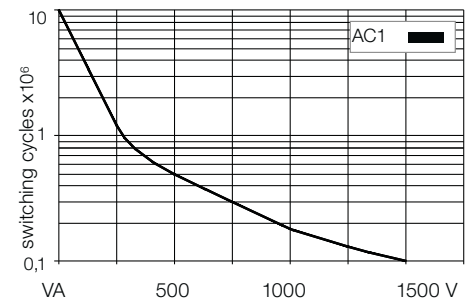
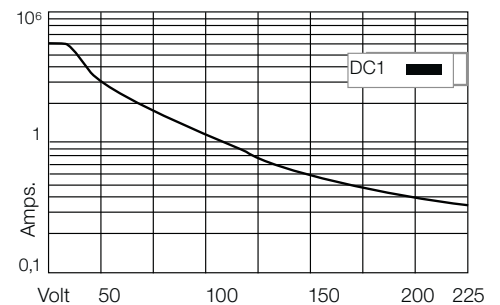
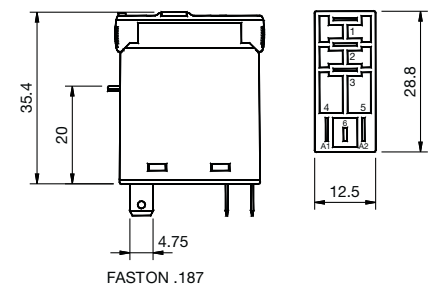


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

Type	C12-A2x/ ... V Standard relay 2 change-over contact		
Maximum contact load	5 A/250 V AC1	0,5 A/110 V DC1	
	5 A/30 V DC1	0,2 A/220 V DC1	
Recommended minimum contact load	10 mA/10 V Code 1		
	5 mA/5 V Code 2		

Contacts			
Material	Standard	Code 1	AgNi + 0,2 μ Au
	Optional	Code 2	AgNi + 10 μ Au
Rated current	5 A		
Switch-on current max. (20 ms)	15 A		
Switching voltage max.	250 V		
AC load (Fig 1)	1,2 kVA		
DC load	see fig. 2		

Coil			
Coil resistance	see table; tolerance ± 10 %		
Pick-up voltage	≤ 0,8 × U _N		
Release voltage	≥ 0,1 × U _N		
Nominal power	1,1 VA (AC)/0,7 W (DC)		

Coil table					
VAC	Ω	mA	VDC	Ω	mA
24	290	45	12	224	53
48	1200	23	24	742	32
115	7.300	9,5	48	3.500	13,7
230	28.800	4,7	110	19.900	5,5

Insulation	Volt rms, 1 min
Contact open	1000 V
Contact/contact	3000 V
Contact/coil	5 kV
Insulation resistance at 500 V	≥1 GΩ
Insulation, IEC 61810-1	4 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C /-40 ... 80 °C
Pick-up time/bounce time	10 ms/≤ 1 ms
Release time/bounce time	5 ms/≤ 3 ms
Mechanical life ops	AC: 10 Mill./DC: 20 Mill.
DC voltage endurance at rated load	≥100000 switching cycles
Switching frequency at rated load	≤ 1200/h
Protection class	IP40
Weight	21 g

Standard types		
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C12-A21/AC ... V	C12-A22/AC ... V
LED	C12-A21X/AC ... V	C12-A22X/AC ... V
RC suppressor	C12-A21R/AC ... V	C12-A22R/AC ... V
VDC 12, 24, 48, 110	C12-A21/DC ... V	C12-A22/DC ... V
LED	C12-A21X/DC ... V	C12-A22X/DC ... V
Polarity and free wheeling diode	C12-A21FX/DC ... V	C12-A22FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V	C12-A21BX/UC ... V	C12-A22BX/UC ... V

"..." Enter the voltage for full type designation

Accessories	
Socket:	S12, S12-P



Connection diagram

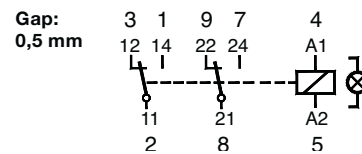


Fig. 1 AC voltage endurance

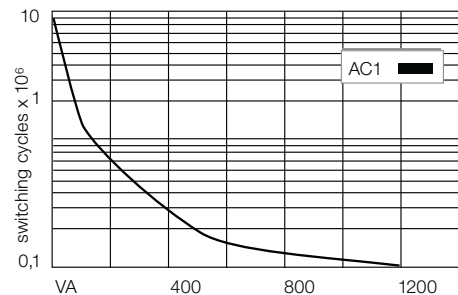
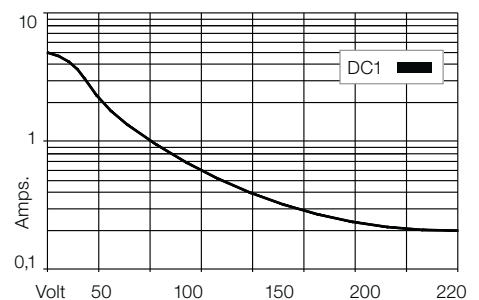
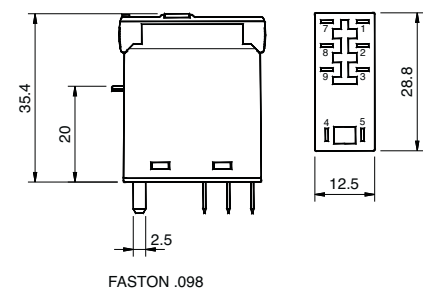


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947



Type	C12-G2x/ ... V Standard relay 2 open contacts			
Maximum contact load	5 A/250 V AC1	0,8 A/110 V DC1		
	5 A/30 V DC1	0,4 A/220 V DC1		
Recommended minimum contact load	10 mA/10 V Code 1 5 mA/5 V Code 2			

Contacts				
Material	Standard	Code 1	AgNi + 0,2 μ Au	
	Optional	Code 2	AgNi + 10 μ Au	
Rated current	5 A			
Switch-on current max. (20 ms)	15 A			
Switching voltage max.	250 V			
AC load (Fig 1)	1,2 kVA			
DC load	see Fig. 2			

Coil				
Coil resistance	see table; tolerance ± 10 %			
Pick-up voltage	≥ 0,8 x U _N			
Release voltage	≥ 0,1 x U _N			
Nominal power	1,1 VA (AC)/0,7 W (DC)			

Coil table					
VAC	Ω	mA	VDC	Ω	mA
24	290	45	12	224	53
48	1200	23	24	742	32
115	7.300	9,5	48	3.500	13,7
230	28.800	4,7	110	19.900	5,5

Insulation		Volt rms, 1 min
Contact open	2000 V	
Contact/contact	3000 V	
Contact/coil	5 kV	
Insulation resistance at 500 V	≥ 1 GΩ	
Insulation, IEC 61810-1	4 kV/3	

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C /-40 ... 80 °C
Pick-up time/bounce time	10 ms/≤ 1 ms
Release time/bounce time	5 ms/≤ 3 ms
Mechanical life ops	AC: 10 Mill./DC: 20 Mill.
DC voltage endurance at rated load	≥ 100000 switching cycles
Switching frequency at rated load	≤ 1200/h
Protection class	IP40
Weight	21 g

Standard types		
VAC 50 Hz/60 Hz: 24, 48, 115, (120), 230, (240)	C12-G21/AC ... V	C12-G22/AC ... V
LED	C12-G21X/AC ... V	C12-G22X/AC ... V
RC suppressor	C12-G21R/AC ... V	C12-G22R/AC ... V
VDC 12, 24, 48, 110	C12-G21/DC ... V	C12-G22/DC ... V
LED	C12G21X/DC ... V	C12-G22X/DC ... V
Polarity and free wheeling diode	C12-G21FX/DC ... V	C12-G22FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V	C12-G21BX/UC ... V	C12-G22BX/UC ... V

"..." Enter the voltage for full type designation

Accessories	
Socket:	S12, S12-P

Connection diagram

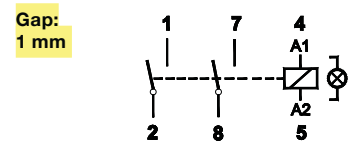


Fig. 1 AC voltage endurance

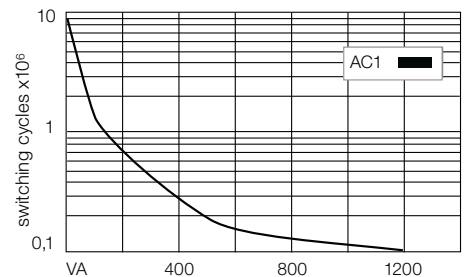
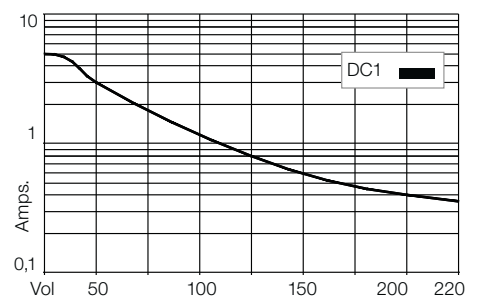
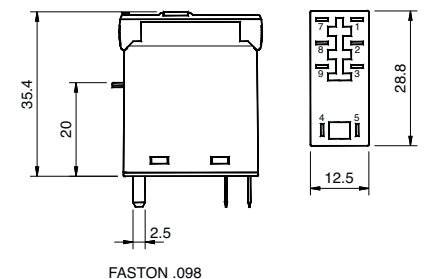


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947