

1.1 Plug-in Relays
1.1.1 Industrial Relays

MRC Series



Application	Types	Pins	Contacts	AC ratings	DC ratings	Socket
C2 Series						
General purpose	C2-A2x			10 A / 250 V	0.5 A / 110 V	S2
Low switching load	C2-T2x			6 A / 250 V	6 A / 30 V	S2
DC load switching	C2-G2x		1.7mm 	10 A / 250 V	1.2 A / 110 V	S2
C3 Series						
General purpose	C3-A3x			10 A / 250 V	0.5 A / 110 V	S3
Low switching load	C3-T3x			6 A / 250 V	6 A / 30 V	S3
DC load switching	C3-G3x		1.7mm 	10 A / 250 V	1.2 A / 110 V	S3
DC load switching with magnetic blow out	C3-M1x		>3mm 	10 A / 250 V	10 A / 220 V	S3
DC load switching double make	C3-X1x		>3mm 	10 A / 250V	7 A / 110 V	S3
Latching relay	C3-R2x		 Rem.	10 A / 250 V	0.5 A / 110 V	S3
Sensitive Coil 250mW ... 300mW	C3-S1x			6 A / 250 V	6 A / 30 V	S3
Sensitive Coil 500mW ... 800mW	C3-E2x			6 A / 250	6 A / 30 V	S3
Sensitive Coil 500mW ... 800mW	C3-N3x			6 A / 250	6 A / 30 V	S3
Railway application	R3-N3x			6 A / 250	6 A / 30 V	S3
C4 Series						
General purpose	C4-A4x			10 A / 250 V	0.5 A / 110 V	S4
DC load switching double make	C4-X2x		2x >3mm 	10 A / 250 V	7 A / 110 V	S4
Latching relay	C4-R3x		 Rem.	10 A / 250 V	0.5 A / 110 V	S4
C5 Series						
Power relay	C5-A2x			16 A / 400 V	0.5 A / 110 V	S5
Power relay	C5-A3x			16 A / 400 V	0.5 A / 110 V	S5
DC load switching	C5-G3x		1.7mm 	16 A / 400 V	1.2 A / 110 V	S5
DC load switching double make	C5-X1x		>3mm 	16 A / 400 V	7 A / 110 V	S5
DC load switching with magnetic blow out	C5-M1x		>3mm 	16 A / 400 V	10 A / 220 V	S5
DC load switching with magnetic blow out	C5-M2x		>3mm 	16 A / 250 V	7 A / 110 V	S5
Latching relay	C5-R2x		 Rem.	10 A / 400 V	10 A / 30 V	S5

Type	C2-A2x/ ... V Standard relay, 2 change-over contacts		
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	
Recommended minimum contact load	10 mA/10 V Code 0, 9 5 mA/5 V Code 8		

Contacts			
Material	Standard	Code 0	AgNi
	Optional	Code 8	AgNi + 10 μ Au
	Optional	Code 9	AgNi + 0,2 μ Au
Max. switching current	10 A		
Max. peak inrush current (20 ms.)	30 A		
Max. switching voltage	250 V		
Max. AC load (Fig 1 1)	2,5 kVA		
Max. DC load	See Fig 2		

Coils			
Coil resistance	see table; tolerance ± 10 %		
Pull-in voltage	≤ 0,8 x U _N		
Pull-in voltage	≥ 0,1 x U _N		
Nominal power	2,2 VA (AC)/1,3 W (DC)		

Table	VAC	Ω	mA	VDC	Ω	mA
	24	67	92	24	443	54
	48	296	46	48	1K8	27
	115	1K7	19	110	9K2	12
	230	7K1	9,5	220	36K1	6

Insulation	Volt rms, 1 min
Open contact	1000 V
Between adjacent poles	2,5 kV
Between contacts and coil	2,5 kV
Insulation resistance at 500 V	≥ 1 GΩ
Insulation, IEC 61810-1	2,5 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C /-40 ... 80 °C
Pick-up time + bounce time	16 ms/≤ 3 ms
Release time + bounce time	8 ms/≤ 1 ms
Mechanical life ops	AC: 10 Mill./DC: 20 Mill.
DC voltage endurance at rated load	≥ 100000 ops. switching cycles
Operating frequency at nominal load	≤ 1200/ops/h
Protection degree	IP40
Weight	90 g

Standard types			
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C2-A20/AC ... V	C2-A28/AC ... V	C2-A29AC ... V
LED	C2-A20X/AC ... V	C2-A28X/AC ... V	C2-A29X/AC ... V
RC Suppressor	C2-A20R/AC ... V	C2-A28R/AC ... V	C2-A29R/AC ... V
VDC 24, 48, 110, 220	C2-A20/DC ... V	C2-A28/DC ... V	C2-A29/DC ... V
LED	C2-A20X/DC ... V	C2-A28X/DC ... V	C2-A29X/DC ... V
Free wheeling diode	C2-A20DX/DC ... V	C2-A28DX/DC ... V	C2-A29DX/DC ... V
Polarity and free wheeling diode	C2-A20FX/DC ... V	C2-A28FX/DC ... V	C2-A29FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V, 60 V	C2-A20BX/UC ... V	C2-A28BX/UC ... V	C2-A29BX/UC ... V

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

Accessories	
Socket:	S2-B, S2-S, S2-L, S2-P, S2-P0
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

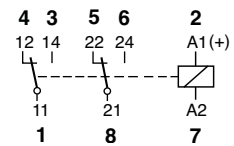


Fig. 1 AC voltage endurance

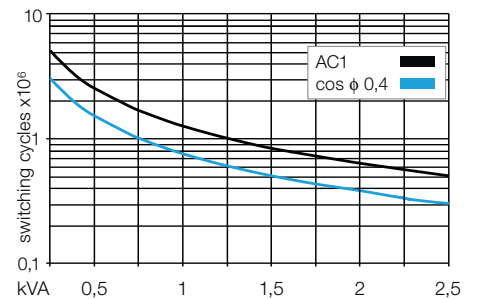
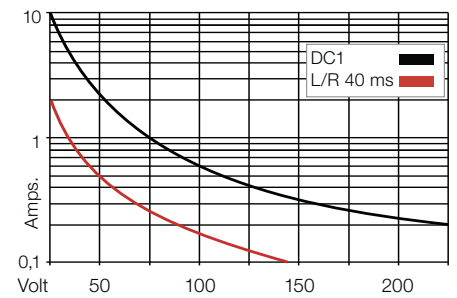
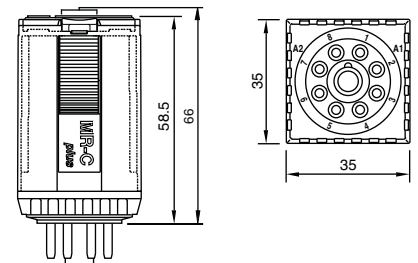


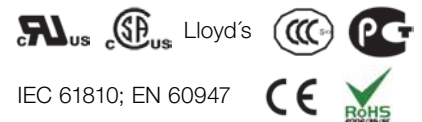
Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



Type	C2-T2x/ ... V Standard relay for low level 2 Change-over contacts			
Maximum contact load	6 A/250 V	AC1	6 A/30 V	DC1
Recommended minimum contact load	5 mA/5 V	Code 1		
	1 mA/5 V	Code 2		

Contacts				
Material	Standard	Code 1	AgNi + 0,2 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)	1,2 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	2,2 VA (AC)/1,3 W (DC)			

Coil table					
VAC	Ω	mA	VDC	Ω	mA
24	67	92	24	443	54
48	296	46	48	1K8	27
115	1K7	19	110	9K2	12
230	7K1	9,5	220	36K1	6

Insulation		Volt rms, 1 min
Contact open	1000 V	
Contact/contact	2,5 kV	
Contact/coil	2,5 kV	
Insulation resistance at 500 V	≥ 1 GΩ	
Insulation, IEC 61810-1	2,5 kV/3	

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C / -40 ... 80 °C
Pick-up time/bounce time	16 ms/≤ 3 ms
Release time/bounce time	8 ms/≤ 1 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/ops/h
Protection class	IP40
Weight	90 g

Standard types		
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C2-T21/AC ... V	C2-T22/AC ... V
LED	C2-T21X/AC ... V	C2-T22X/AC ... V
RC Suppressor	C2-T21R/AC ... V	C2-T22R/AC ... V
VDC 24, 48, 110, 220	C2-T21/DC ... V	C2-T22/DC ... V
LED	C2-T21X/DC ... V	C2-T22X/DC ... V
Free wheeling diode	C2-T21DX/DC ... V	C2-T22DX/DC ... V
Polarity and free wheeling diode	C2-T21FX/DC ... V	C2-T22FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V, 60 V	C2-T21BX/UC ... V	C2-T22BX/UC ... V

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

Accessories	
Socket:	S2-B, S2-S, S2-L, S2-P, S2-P0
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

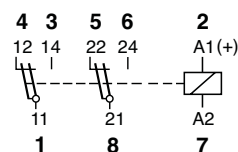


Fig. 1 AC voltage endurance

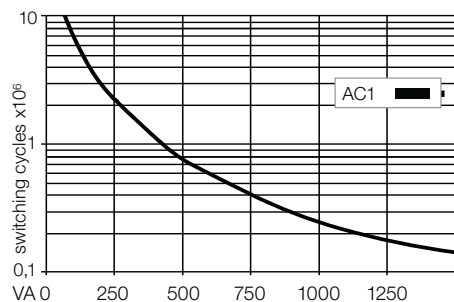
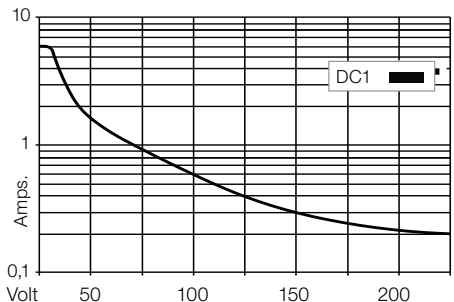
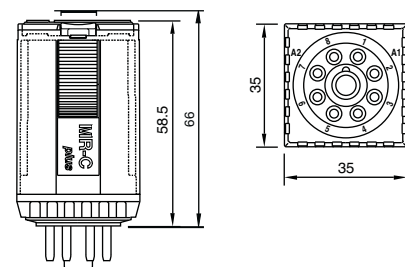


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

C2-G2x

8-pin standard relay, 2-pole, plug-in according to IEC 67-I-5a

Type	C2-G2x/ ... V Standard relays, DC application 2 open contacts		
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Maximum contact load	10 A/250 V AC1	1,2 A/110 V DC1
	10 A/30 V DC1	0,4 A/220 V DC1

Contacts			
Material	Standard	Code 0	AgNi
Rated current			10 A
Switch-on current max. (20 ms)			30 A
Switching voltage max.			250 V
AC load (Fig 1)			2,5 kVA
DC load			see Fig. 2

Coil	
Coil resistance	see table; tolerance $\pm 10\%$
Pick-up voltage	$\leq 0,8 \times U_N$
Release voltage	$\geq 0,1 \times U_N$
Nominal power	2,4 VA (AC)/1,6 W (DC)

Coil table	VAC	Ω	mA	VDC	Ω	mA
	24	65	100	24	360	66
	48	286	50	48	1K4	34
	115	1K7	21	110	7K6	15
	230	6K8	10	220	30K3	7,5

Insulation	Volt rms, 1 min
Contact open	2000 V
Contact/contact	2,5 kV
Contact/coil	2,5 kV
Insulation resistance at 500 V	$\geq 1 \text{ G}\Omega$
Insulation, EN 61810-1	2,5 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C /-40 ... 80 °C
Pick-up time/bounce time	20 ms/ $\leq 3 \text{ ms}$
Release time/bounce time	8 ms/ $\leq 1 \text{ ms}$
Mechanical life ops	AC: 10 Mill./DC: 20 Mill.
DC voltage endurance at rated load	≥ 100000 switching cycles
Switching frequency at rated load	≤ 1200 /ops/h
Protection class	IP40
Weight	90 g

Standard types	C2-G20/AC ... V
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C2-G20X/AC ... V
LED	C2-G20R/AC ... V
RC Suppressor	
VDC 24, 48, 110, 220	C2-G20/DC ... V
LED	C2-G20X/DC ... V
Free wheeling diode	C2-G20DX/DC ... V
Polarity and free wheeling diode	C2-G20FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V, 60 V	C2-G20BX/UC ... V

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

Accessories	
Socket:	S2-B, S2-S, S2-L, S2-P, S2-P0
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

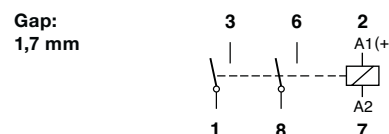


Fig. 1 AC voltage endurance

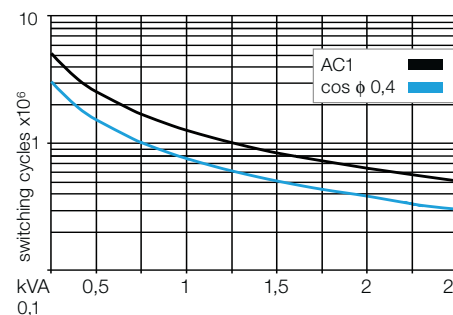
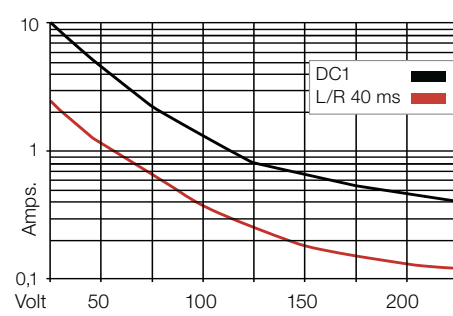
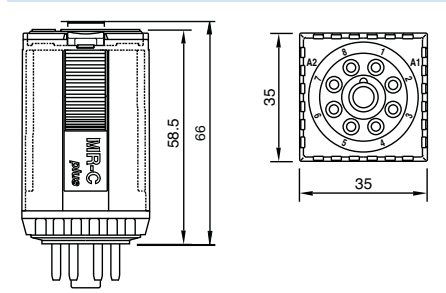


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

Type	C3-A3x/ ... V Standard relays, 3 change-over contacts		
Maximum contact load	10 A/250	ACI	0,5 A/110 V DC1
	10 A/30	DCI	0,2 A/220 V DC1
Recommended minimum contact load	10 mA/10 V	Code 0, 9	
	5 mA/5 V	Code 8	

Contacts			
Material	Standard	Code 0	AgNi
	Optional	Code 8	AgNi + 10 μ Au
	Optional	Code 9	AgNi + 0,2 μ Au
Rated current	10 A		
Switch-on current max. (20 ms)	30 A		
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 × U _N
Release voltage	≥ 0,1 × U _N
Nominal power	2,2 VA (AC)/1,3 W (DC)

Coil table						
	VAC	Ω	mA	VDC		mA
	24	67	92	24	443	54
	48	296	46	48	1K8	27
	115	1K7	19	110	9K2	12
	230	7K1	9,5	220	36K1	6

Insulation	Volt rms, 1 min
Contact open	1000 V
Contact/contact	2,5 kV
Contact/coil	2,5 kV
Insulation resistance at 500 V	≥ 1 GΩ
Insulation, IEC 61810-1	2,5 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C / -40 ... 80 °C
Pick-up time/bounce time	16 ms/≤ 3 ms
Release time/bounce time	8 ms/≤ 1 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/ops/h
Protection class	IP40
Weight	90 g

Standard types			
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C3-A30/AC ... V	C3-A38/AC ... V	C3-A39/AC ... V
LED	C3-A30X/AC ... V	C3-A38X/AC ... V	C3-A39X/AC ... V
RC Suppressor	C3-A30R/AC ... V	C3-A38R/AC... V	C3-A39R/AC... V
VDC 24, 48, 110, 220	C3-A30/DC ... V	C3-A38/DC ... V	C3-A39/DC ... V
LED	C3-A30X/DC ... V	C3-A38X/DC ... V	C3-A39X/DC ... V
Free wheeling diode	C3-A30DX/DC ... V	C3-A38DX/DC ... V	C3-A39DX/DC ... V
Polarity and free wheeling diode	C3-A30FX/DC ... V	C3-A38FX/DC ... V	C3-A39FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V, 60 V	C3-A30BX/UC ... V	C3-A38BX/UC ... V	C3-A39BX/UC ... V

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

Accessories	
Socket:	S3-B, S3-S, S3-L, S3-P, S3-P0, S3-MP, S3-MS
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

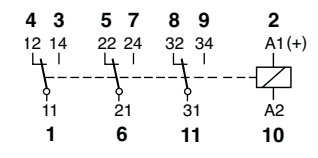


Fig. 1 AC voltage endurance

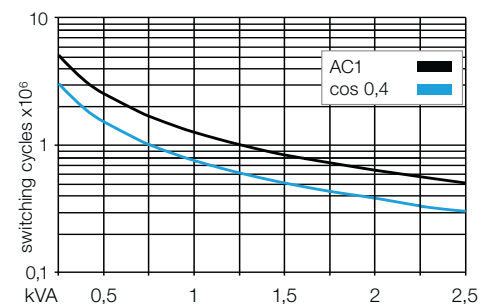
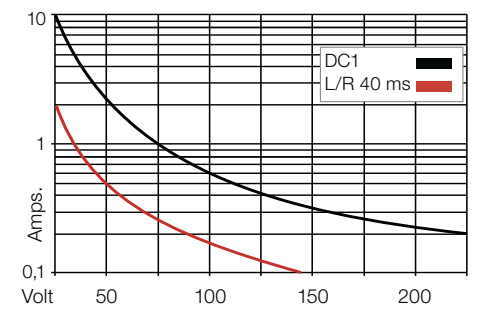
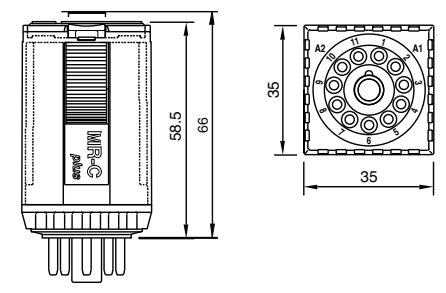


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



C3-T3x

11-pin standard relay, 3-pole, twin contact, plug-in according to IEC 67-I-18a

Type	C3-T3x/ ... V Standard relays for low level 3 change-over twin contacts			
Maximum contact load	6 A/250 V	AC 1	6 A/30 V	DC1
Recommended minimum contact load	5 mA/5 V	Code 1		
	1 mA/5 V	Code 2		

Contacts				
Material	Standard	Code 1	AgNi + 0,2 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)	1,2 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	2,2 VA (AC)/1,3 W (DC)			

Coil table					
VAC	Ω	mA	VDC	Ω	mA
24	67	92	24	443	54
48	296	46	48	1K8	27
115	1K7	19	110	9K2	12
230	7K1	9,5	220	36K1	6

Insulation		Volt rms, 1 min
Contact open		1000 V
Contact/contact		2,5 kV
Contact/coil		2,5 kV
Insulation resistance at 500 V		≥ 1 GΩ
Insulation, EN 61810-1		2,5 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C /-40 ... 80 °C
Pick-up time/bounce time	16 ms/≤ 3 ms
Release time/bounce time	8 ms/≤ 1 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/ops/h
Protection class	IP40
Weight	90 g

Standard types			
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C3-T31/AC ... V	C3-T32/AC ... V	
LED	C3-T31X/AC ... V	C3-T32X/AC ... V	
RC Suppressor	C3-T31R/AC ... V	C3-T32R/AC ... V	
VDC 24, 48, 110, 220	C3-T31/DC ... V	C3-T32/DC ... V	
LED	C3-T31X/DC ... V	C3-T32X/DC ... V	
Free wheeling diode	C3-T31DX/DC ... V	C3-T32DX/DC ... V	
Polarity and free wheeling diode	C3-T31FX/DC ... V	C3-T32FX/DC ... V	
AC/DC bridge rectifier 24 V, 48 V, 60 V	C3-T31BX/UC ... V	C3-T32BX/UC ... V	

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

Accessories	
Socket:	S3-B, S3-S, S3-L, S3-P, S3-P0, S3-MP, S3-MS
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

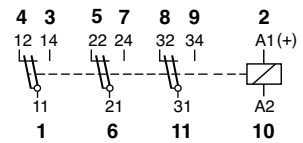


Fig. 1 AC voltage endurance

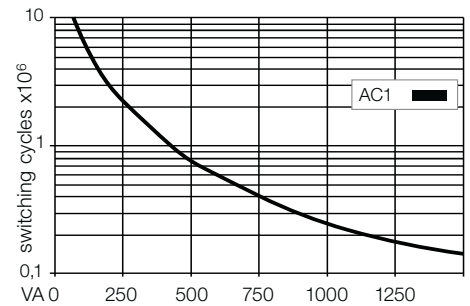
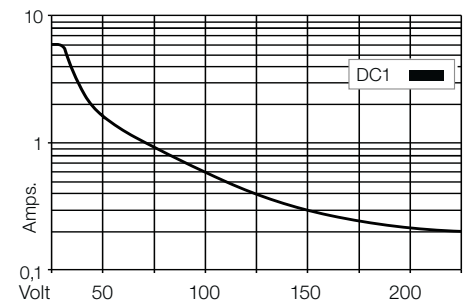
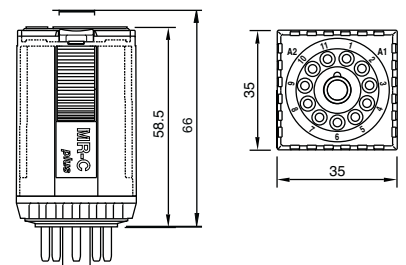


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

Type	C3-G3x/ ... V Standard relays, DC application 3 open contacts		
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Maximum contact load	10 A 250 V AC 1	1,2 A/110 V DC1
	10 A 30 V DC 1	0,4 A/220 V DC1

Contacts

Material	Standard	Code 0	AgNi
Rated current			10 A
Switch-on current max. (20 ms)			30 A
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	2,4 VA (AC)/1,6 W (DC)

Coil table

VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	360	66
48	286	50	48	1K4	34
115	1K7	21	110	7K6	15
230	6K8	10	220	30K3	7,5

Insulation

	Volt rms, 1 min
Contact open	2000 V
Contact/contact	2,5 kV
Contact/coil	2,5 kV
Insulation resistance at 500 V	≥1 GΩ
Insulation, IEC 61810-1	2,5 kV/3

Specifications

Ambient temperature operation/storage	-40 (no ice)...60 °C /-40 ... 80 °C
Pick-up time/bounce time	20 ms/≤ 3 ms
Release time/bounce time	8 ms/≤ 1 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/ops/ h
Protection class	IP40
Weight	90 g

Standard types

VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)

LED

RC Suppressor

VDC 24, 48, 110, 220

LED

Free wheeling diode

Polarity and free wheeling diode

AC/DC bridge rectifier 24 V, 48 V, 60 V

C3-G30/AC ... V
C3-G30X/AC ... V
C3-G30R/AC ... V

C3-G30/DC ... V
C3-G30X/DC ... V
C3-G30DX/DC... V
C3-G30FX/DC ... V

C3-G30BX/UC ... V

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

Accessories

Socket:

Optional accessories (blinking plug):

S3-B, S3-S, S3-L, S3-P, S3-P0, S3-MP, S3-MS
SO-NP, SO-OP



Connection diagram

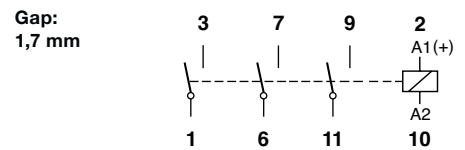


Fig. 1 AC voltage endurance

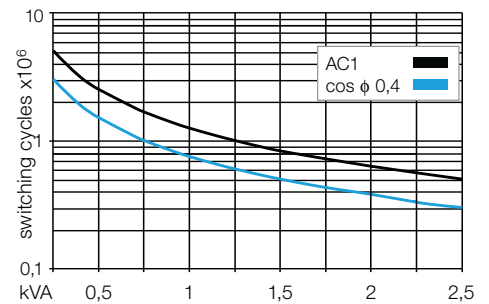
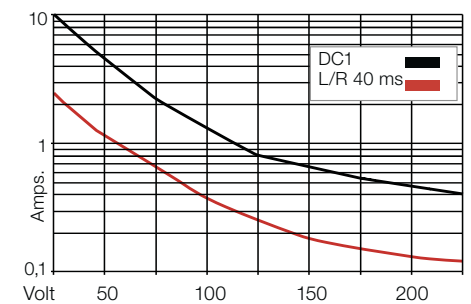
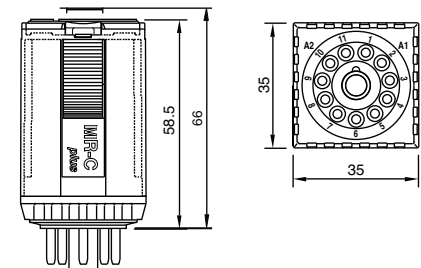


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities

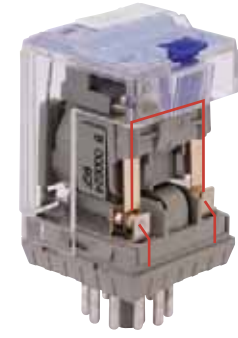


IEC 61810; EN 60947

C3-M1x

11-pin power relay, 1-pole, magnetic blow out, according to IEC 67-I-18a

Type	C3-M1x/ ... V Power relays, DC, application 1 pole, magnetic blow out																																			
Maximum contact load	10 A 250 V AC1 10 A 220 V DC1 3,6 A 110 V L/R 40ms 2 A 220 V L/R 40ms																																			
Contacts																																				
Material	Standard	Code 0	AgNi																																	
Rated current	10 A																																			
Switch-on current max. (20 ms)	30 A																																			
Switching voltage max.	250 V																																			
AC load (Fig 1)	2,5 kVA																																			
DC load	see Fig. 2																																			
Coil																																				
Coil resistance	see table; tolerance $\pm 10\%$																																			
Pick-up voltage	$\leq 0,8 \times U_N$																																			
Release voltage	$\geq 0,1 \times U_N$																																			
Nominal power	2,4 VA (AC) / 1,3 W (DC)																																			
Coil table	<table border="1"> <thead> <tr> <th>VAC</th> <th>Ω</th> <th>mA</th> <th>VDC</th> <th>Ω</th> <th>mA</th> </tr> </thead> <tbody> <tr> <td>24</td> <td>65</td> <td>100</td> <td>24</td> <td>443</td> <td>54</td> </tr> <tr> <td>48</td> <td>286</td> <td>50</td> <td>48</td> <td>1K7</td> <td>27</td> </tr> <tr> <td>115</td> <td>1K7</td> <td>21</td> <td>110</td> <td>9K2</td> <td>12</td> </tr> <tr> <td>230</td> <td>6K8</td> <td>10</td> <td>220</td> <td>36K1</td> <td>6</td> </tr> </tbody> </table>						VAC	Ω	mA	VDC	Ω	mA	24	65	100	24	443	54	48	286	50	48	1K7	27	115	1K7	21	110	9K2	12	230	6K8	10	220	36K1	6
VAC	Ω	mA	VDC	Ω	mA																															
24	65	100	24	443	54																															
48	286	50	48	1K7	27																															
115	1K7	21	110	9K2	12																															
230	6K8	10	220	36K1	6																															
Insulation	Volt rms, 1 min																																			
Contact open	2500 V																																			
Contact/contact	2,5 kV																																			
Contact/coil	2,5 kV																																			
Insulation resistance at 500 V	$\geq 1 \text{ G}\Omega$																																			
Insulation, IEC 61810-1:	2,5 KV / 3																																			
Specifications																																				
Ambient temperature operation/storage	-40 (no ice)...60 °C / -40 ... 80 °C																																			
Nominal coil power	2,4 VA (AC), 1,3 W (DC)																																			
Pick-up time/bounce time	20 ms/ ≤ 3 ms																																			
Release time/bounce time	10 ms/ ≤ 1 ms																																			
Isolation: EN 60947, pollution rate 3, Gr C	250 V																																			
Dielectric strength, Contact/Coil	2,5 KV																																			
Standard types																																				
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C3-M10/AC ... V																																			
LED	C3-M10X/AC ... V																																			
RC Suppressor	C3-M10R/AC ... V																																			
VDC 24, 48, 110, 220	C3-M10/DC ... V																																			
LED	C3-M10X/DC ... V																																			
Free wheeling diode	C3-M10DX/DC ... V																																			
Polarity and free wheeling diode	C3-M10FX/DC ... V																																			
AC/DC bridge rectifier 24 V, 48 V, 60 V	C3-M10BX/UC ... V																																			
"..." Enter the voltage for full type designation																																				



Connection diagram

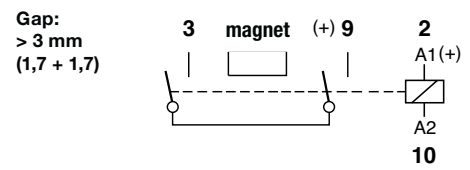


Fig. 1 AC voltage endurance

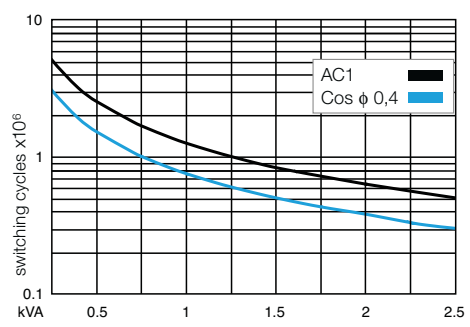
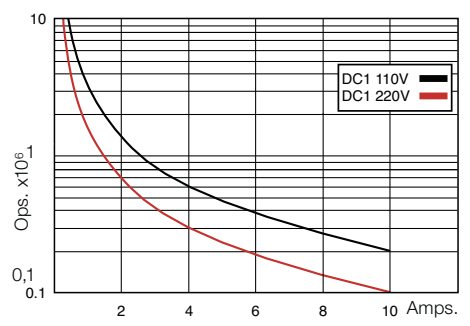
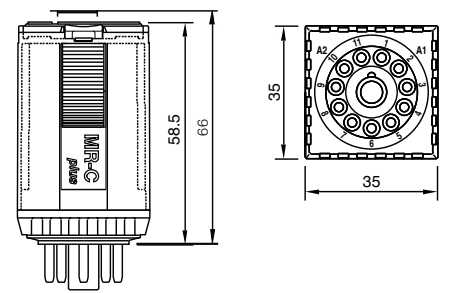


Fig. 2 DC voltage endurance



Dimensions [mm]



Technical approvals, conformities



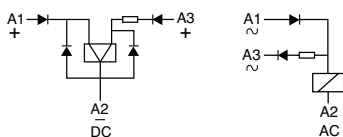
IEC 61810; EN 60947

Type	C3-R2x/ ... V Remanence plug-in relays, 2 change-over contacts		
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	
Recommended minimum contact load	10 mA/10 V Code 0, 9		
	5 mA/5 V Code 8		

Contacts			
Material	Standard	Code 0	AgNi
	Optional	Code 8	AgNi + 10 μ Au
	Optional	Code 9	AgNi + 0,2 μ Au
Rated current	10 A		
Switch-on current max. (20 ms)	30 A		
Switching voltage max.	250 V		
AC load (Fig 1)	2,5 kVA		
DC load	see Fig. 2		

Coil	
Coil resistance	see table; tolerance ± 10 %
ON pulse power	1,5 VA/W
OFF pulse power	0,5 VA/W
Pull-in ON/OFF	≤ 0,8 × U _N

Internal Diagram:



Coil table

VAC	mA ON	mA OFF	VDC	mA ON	mA OFF
24	75	12	12	125	41
48	38	6	24	63	21
115	16	2,5	48	31	10
230	8	1,3	110	14	4,5

Insulation	Volt rms, 1 min
Contact open	1000 V
Contact/contact	2,5 kV
Contact/coil	2,5 kV
Insulation resistance at 500 V	≥ 1 GΩ
Insulation, IEC 61810-1	2,5 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C / -40 ... 80 °C
Minimum pulse length for ON/OFF	50 ms
Mechanical life ops	10 Mill.
DC voltage endurance at rated load	≥ 100000 switching cycles
Switching frequency at rated load	≤ 1200/ops/h
Protection class	IP40
Weight	95 g

Standard types

VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240) **C3-R20/AC ... V** **C3-R28/AC ... V** **C3-R29/AC ... V**

VDC 12, 24, 48, 110 **C3-R20/DC ... V** **C3-R28/DC ... V** **C3-R29/DC ... V**

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

Accessories

Socket: **S3-B, S3-S, S3-L, S3-P, S3-P0, S3-MP, S3-MS**
Optional accessories (blinking plug): **SO-NP, SO-OP**



Connection diagram

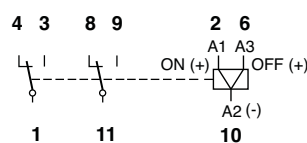


Fig. 1 AC voltage endurance

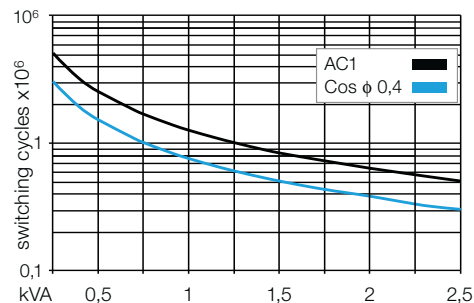
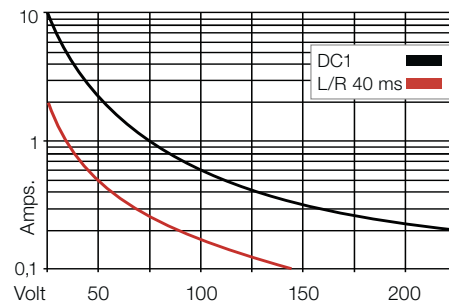
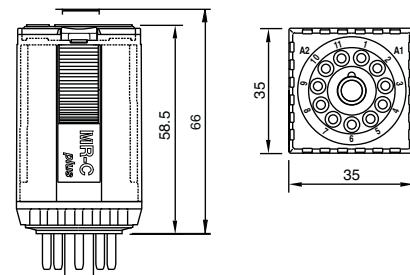


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

Type	C3-S1x/ DC... V Sensitive relays, 250 mW, 1 change-over contacts		
Operating range	0,8 ... 2,5 x Un		
Maximum contact load	6 A/250 V AC1	6 A/30 V DC1	
Recommended minimum contact load	10 mA/10 V Code 4	5 mA/5 V Code 8	

Contacts			
Material	Standard,	Code 4	AgNi + 0,2 μ Au
	Optional,	Code 8	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	250 mW

Coil table	VDC	Ω	mA
	6	140	43
	12	536	22
	24	2164	11
	48	8651	5,5

Insulation	Volt rms, 1 min
Contact open	1000 V
Contact/contact	2,5 kV
Contact/coil	2,5 kV
Insulation resistance at 500 V	≥ 1 GΩ
Insulation, IEC 61810-1	2,5 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C / -40 ... 80 °C
Pick-up time/bounce time	18 ms/≤ 3 ms
Release time/bounce time	10 ms/≤ 1 ms
Mechanical life ops	DC: 20 Mill.
DC voltage endurance at rated load	≥ 100000 switching cycles
Switching frequency at rated load	≤ 1200/ops/h
Protection class	IP40
Weight	73 g

Standard types	C3-S14/DC ... V	C3-S18/DC ... V
VDC 12, 24, 48	C3-S14D/DC ... V	C3-S18D/DC ... V
Free wheeling diode	C3-S14F/DC ... V	C3-S18F/DC ... V
Polarity and free wheeling diode		

Connection of diodes to the coil will increase the release time.
LED available upon request.

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

Accessories	
Socket:	S3-B, S3-S, S3-L, S3-P, S3-P0, S3-MP, S3-MS
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

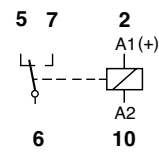


Fig. 1 AC voltage endurance

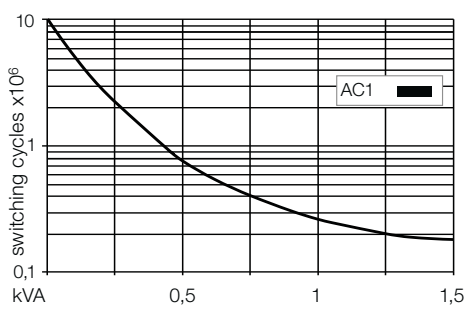
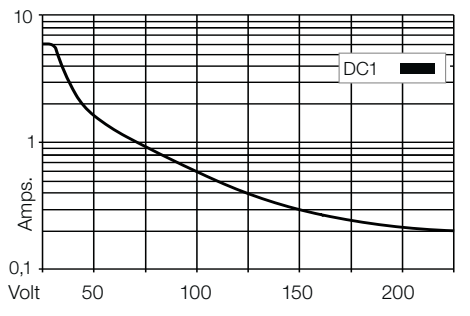
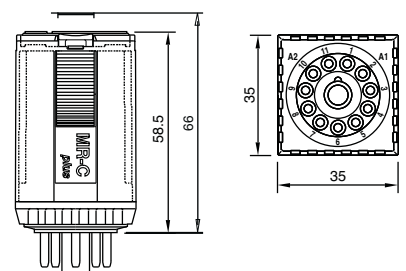


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

MRC series

C3-E2x

11-pin standard relays, sensitive, 2-pole, according to IEC 67-I-18a

Type	C3-E2x/ DC... V Sensitive relays, 500 mW, 2 change-over contacts			
Operating range	0,8 ... 1,7 x U_N			
Maximum contact load	6 A/250 V	AC1	6 A/30 V	DC1
Recommended minimum contact load	10 mA/10 V	Code 4	5 mA/5 V	Code 8

Contacts

Material	Standard,	Code 4	AgNi + 0,2 μ Au
	Optional,	Code 8	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 $\pm 10\%$
Pick-up voltage	$\leq 0,8 \times U_N$
Release voltage	$\geq 0,1 \times U_N$
Nominal power	500 mW

Coil table

VDC	Ω	mA
24	1K1	21
48	4K6	10
60	7K2	8,3
110	24K2	4,5

Insulation

	Volt rms, 1 min
Contact open	1000 V
Contact/contact	2,5 kV
Contact/coil	2,5 kV
Insulation resistance at 500 V	$\geq 1 \text{ G}\Omega$
Insulation, IEC 61810-1	2,5 kV/3

Specifications

Ambient temperature operation/storage	-40 (no ice)...60 °C / -40 ... 80 °C
Pick-up time/bounce time	18 ms/ ≤ 3 ms
Release time/bounce time	10 ms/ ≤ 1 ms
Mechanical life ops	DC: 20 Mill.
DC voltage endurance at rated load	≥ 100000 switching cycles
Switching frequency at rated load	≤ 1200 /ops/h
Protection class	IP40
Weight	90 g

Standard types

VDC 24, 48, 60, 110

Free wheeling diode

Polarity and free wheeling diode

C3-E24/DC ... V

C3-E24D/DC ... V

C3-E24F/DC ... V

C3-E28/DC ... V

C3-E28D/DC ... V

C3-E28F/DC ... V

Connection of diodes to the coil will increase the release time.

LED available upon request.

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

Accessories

Socket:

S3-B, S3-S, S3-L, S3-P, S3-P0, S3-MP, S3-MS

Optional accessories (blanking plug):

SO-NP, SO-OP



Connection diagram

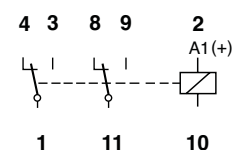


Fig. 1 AC voltage endurance

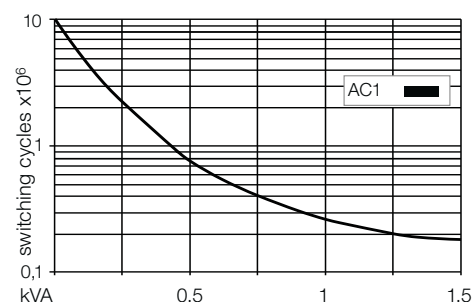
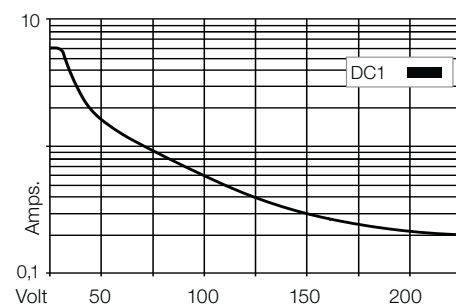
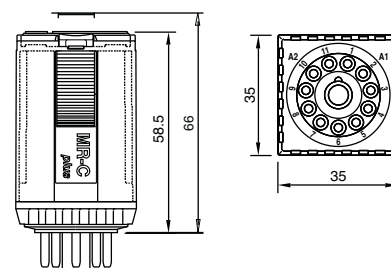


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

Type	C3-N3x/DC ... V Sensitive relays, 800 mw 3 change-over contacts			
Operating range	0,8 ... 1,4 x Un			
Maximum contact load	6 A/250 V	AC 1	6 A/30 V	DC1
Recommended minimum contact load	10 mA/10 V	Code 4		
	5 mA/ 5 V	Code 8		

Contacts			
Material	Standard	Code 4	AgNi + 0,2 μ Au
	Optional	Code 8	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	800 mW

Coil table																
	<table border="1"> <thead> <tr> <th>VDC</th> <th>Ω</th> <th>mA</th> </tr> </thead> <tbody> <tr> <td>24</td> <td>720</td> <td>33</td> </tr> <tr> <td>48</td> <td>2K8</td> <td>17</td> </tr> <tr> <td>60</td> <td>4K5</td> <td>13</td> </tr> <tr> <td>110</td> <td>15K</td> <td>7</td> </tr> </tbody> </table>	VDC	Ω	mA	24	720	33	48	2K8	17	60	4K5	13	110	15K	7
VDC	Ω	mA														
24	720	33														
48	2K8	17														
60	4K5	13														
110	15K	7														

Insulation	Volt rms, 1 min
Contact open	1000 V
Contact/contact	2,5 kV
Contact/coil	2,5 kV
Insulation resistance at 500 V	≥1 GΩ
Insulation, IEC 61810-5	2,5 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C / -40 ... 80 °C
Pick-up time/bounce time	18 ms/≤ 3 ms
Release time/bounce time	10 ms/≤ 1 ms
Mechanical life ops	DC: 20 Mill.
DC voltage endurance at rated load	≥100000 switching cycles
Switching frequency at rated load	≤ 1200/ops/h
Protection class	IP40
Weight	90 g

Standard types	
VDC 24, 48, 60, 110	
Free wheeling diode	C3-N34/DC ... V C3-N38/DC ... V
Polarity and free wheeling diode	C3-N34D/DC ... V C3-N38D/DC ... V
	C3-N34F/DC ... V C3-N38F/DC ... V

Connection of diodes to the coil will increase the release time.
LED available upon request.

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

Accessories	
Socket:	S3-B, S3-S, S3-L, S3-P, S3-P0, S3-MP, S3-MS
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

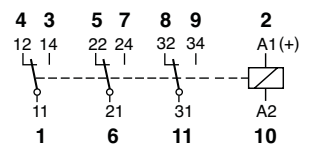


Fig. 1 AC voltage endurance

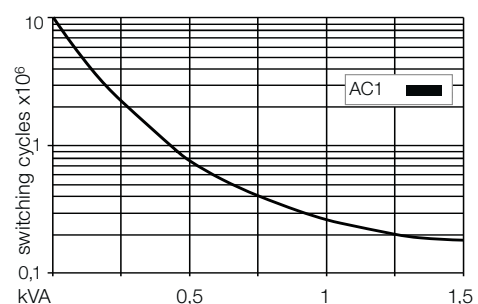
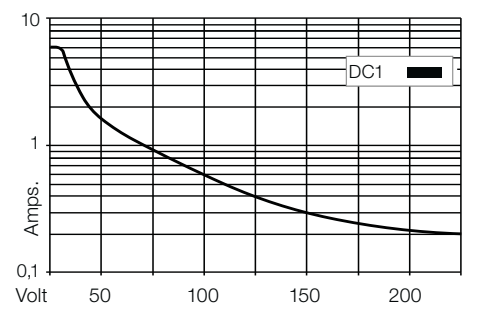
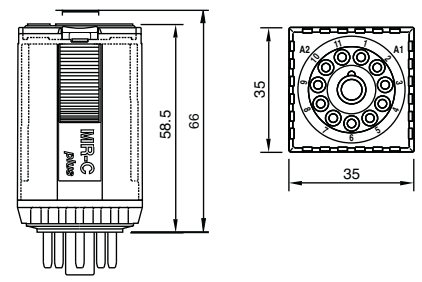


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

MRC series

R3-N3xD

11-pin, special relay, 3-pole, according to IEC 67-I-18a
Relay approval: EN 60077-1-2/99 - EN 61373/99 for Railway application

Type	R3-NxD/ ... V			
	Relays for Railway application 3 change-over contacts special wide range voltage			
Maximum contact load	6 A 250 V	AC1	6 A 30 V	DC1
Recommended minimum contact load	10 mA/10 V	Code 0, 4		
	5 mA/5 V	Code 8		

Contacts				
Material	Standard	Code 0	AgNi	
	Optional	Code 4	AgNi + 0,2µ Au	
	Optional	Code 8	AgNi + 10µ Au	
Rated current	6 A			
Switch-on current max. (20 ms)	15 A			
Switching voltage max.	250 V			
Max. AC load	see Fig. 1			
DC load	see Fig. 2			

Coil				
Coil resistance	see table; tolerance ± 10 %			
Operation range	0,7 U _N ... 1,25 U _N			
Nominal power	1,07 W			

Coil table			
	VDC	Ω	mA
	24	525	46
	48	2133	22
	72	4844	15
	110	12900	9

Insulation	
Pollution grade	PD3
With pulse (1,2 / 50 µs)/Dielectric strength (1Minute/V rms)	4 kV / 2220 V
Contact/coil	4 kV / 2220 V
Contact/contact	4 kV / 2220 V
Between contact and the same pole	1550 kV / 850 V

Specifications	
Ambient temperature operation/storage	-25 (no ice)...70 °C / -40 ... 80 °C
Number of mechanical operations	≥ 10 millions
Thermic class	B (130 °C)
Vibration : category / class	1 / B Body mounted
	5 - 150 Hz (3 axes)
Shock	5 g (3 axes)
Pick-up time/bounce time	18 ms/≤ 3 ms
Release time/bounce time (D version)	35 ms/≤ 1 ms
Weight	95 g
Weight avg. Relay + Socket (S3-B)	150 g
Protection class	IP 40

Standard types	
DC 24, 48, 72, 110	R3-N30/DC ... V R3-N34/DC ... V R3-N38/DC ... V
Free wheeling diode	R3-N30D/DC ... V R3-N34D/DC ... V R3-N38D/DC ... V
LED	R3-N30X/DC ... V R3-N34X/DC ... V R3-N38X/DC ... V
LED + free wheeling diode	R3-N30DX/DC ... V R3-N34DX/DC ... V R3-N38DX/DC ... V*

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

Accessories	
Socket:	S3-B, S3-S, S3-L, S3-P, S3-P0, S3-MP, S3-MS
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

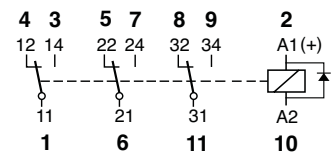


Fig. 1 AC voltage endurance

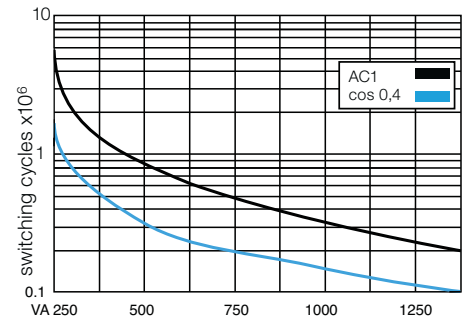
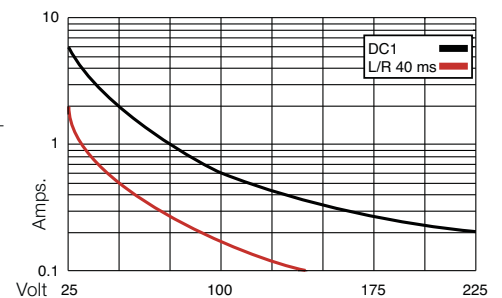
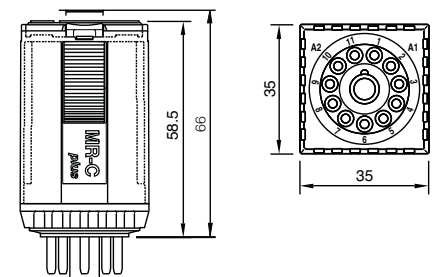


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 60077/EN60077-1-2/99; EN61373/99

Type	C4-A4x/ ... V Standard relays, 4 change-over contacts			
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		
Recommended minimum contact load	10 mA/10 V Code 0, 9			
	5 mA/5 V Code 8			

Contacts			
Material	Standard	Code 0	AgNi
	Optional	Code 8	AgNi + 10 μ Au
	Optional	Code 9	AgNi + 0,2 μ Au
Rated current	10 A		
Switch-on current max. (20 ms)	30 A		
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 × U _N
Release voltage	≥ 0,1 × U _N
Nominal power	2,4 VA (AC)/1,4 W (DC)

Coil table					
VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	414	58
48	286	50	48	1K6	30
115	1K7	21	110	8K1	13
230	6K8	10	220	35K7	6,2

Insulation	Volt rms, 1 min
Contact open	1000 V
Contact/contact	2,5 kV
Contact/coil	2,5 kV
Insulation resistance at 500 V	≥ 1 GΩ
Insulation, IEC 61810-1	2,5 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C / -40 ... 80 °C
Pick-up time/bounce time	20 ms/≤ 3 ms
Release time/bounce time	8 ms/≤ 1 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/ops/h
Protection class	IP40
Weight	90 g

Standard types		
VAC 50 Hz/60 Hz: 24, 48, 115, (120), 230, (240)	C4-A40/AC ... V	C4-A48/AC ... V
LED	C4-A40X/AC ... V	C4-A48X/AC ... V
RC suppressor	C4-A40R/AC ... V	C4-A48R/AC ... V
VDC 24, 48, 110, 220	C4-A40/DC ... V	C4-A48/DC ... V
LED	C4-A40X/DC ... V	C4-A48X/DC ... V
Free wheeling diode	C4-A40DX/DC ... V	C4-A48DX/DC ... V
Polarity and free wheeling diode	C4-A40FX/DC ... V	C4-A48FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V, 60 V	C4-A40BX/UC ... V	C4-A48BX/UC ... V

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

Accessories	
Socket:	S4-J, S4-L, S4-P, S4-P0
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

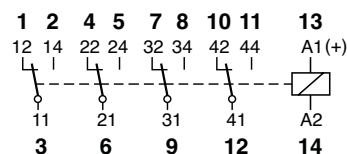


Fig. 1 AC voltage endurance

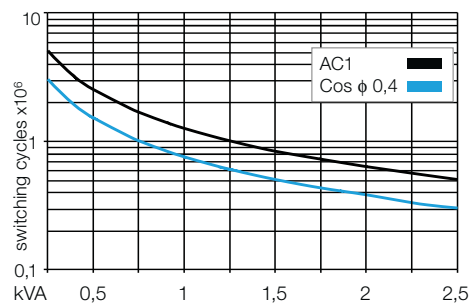
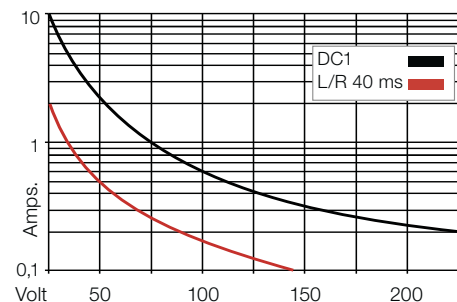
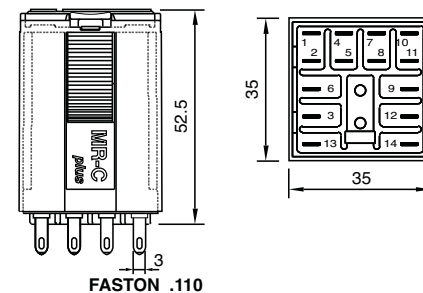


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

C4-X2x

14-pin, power relay, double-make, faston

Type	C4-X2x/ ... V Power relays, DC application 2-pole, NO, double make		
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Maximum contact load	10 A/250 V AC 1	7 A/110 V DC 1
	10 A/30 V DC 1	1,2 A/220 V DC 1

Contacts			
Material	Standard	Code 0	AgNi
Rated current			10 A
Switch-on current max. (20 ms)			30 A
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 × U _N
Release voltage	≥ 0,1 × U _N
Nominal power	2,4 VA (AC)/1,3 W (DC)

Coil table	VAC	Ω	mA	VDC	Ω	mA
	24	65	100	24	443	54
	48	286	50	48	1K8	27
	115	1K7	21	110	9K2	12
	230	6k8	10	220	36K1	6

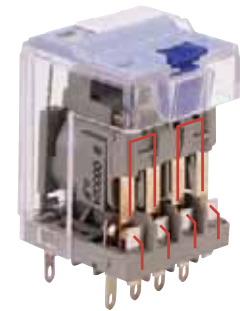
Insulation	Volt rms, 1 min
Contact open	2500 V
Contact/contact	2,5 kV
Contact/coil	2,5 kV
Insulation resistance at 500 V	≥ 1 G.Ω
Insulation, IEC 61810-1	2,5 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C /-40 ... 80 °C
Pick-up time/bounce time	20 ms/≤ 3 ms
Release time/bounce time	8 ms/≤ 1 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/ops/h
Protection class	IP40
Weight	90 g

Standard types	
VAC 50 Hz/60 Hz: 24, 48, 115, (120), 230, (240)	C4-X20/AC ... V
LED	C4-X20X/AC ... V
RC Suppressor	C4-X20R/AC ... V
VDC 24, 48, 110, 220	C4-X20/DC ... V
LED	C4-X20X/DC ... V
Free wheeling diode	C4-X20DX/DC ... V
Polarity and free wheeling diode	C4-X20FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V, 60 V	C4-X20BX/UC ... V

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

Accessories	
Socket:	S4-S, S4-L, S4-P, S4-P0
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

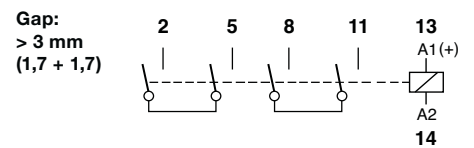


Fig. 1 AC voltage endurance

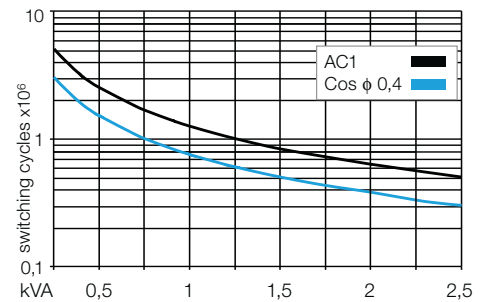
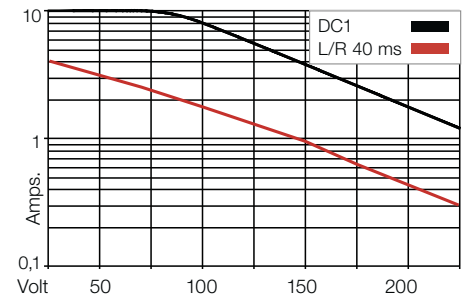
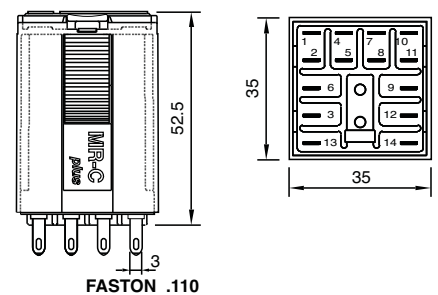


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



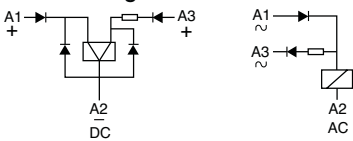
IEC 61810; EN 60947

Type	C4-R3x/ ... V Magnetic remanence relay 3 change-over contact			
Maximum contact load	10 A/250 V AC 1	0,5 A/110 V DC1		
	10 A/10 V DC 1	0,2 A/220 V DC1		
Recommended minimum contact load	10 mA/10 V Code 0, 9			
	5 mA/5 V Code 8			

Contacts			
Material	Standard	Code 0	AgNi
	Optional	Code 8	AgNi + 10 μ Au
	Optional	Code 9	AgNi + 0,2 μ Au
Rated current	10 A		
Switch-on current max. (20 ms)	30 A		
Switching voltage max.	250 V		
AC load	2,5 kVA		
DC load	see Fig. 2		

Coil	
Coil resistance	see table; tolerance ± 10 %
ON pulse power	1,5 VA/W
OFF pulse power	0,5 VA/W
Pull-in ON/OFF	1 Winding for AC, 2 Windings for DC ≤ 0,8 x U _N

Internal Diagram:



Coil table

VAC	mA ON	mA OFF	VDC	mA ON	mA OFF
24	75	12	12	125	41
48	38	6	24	63	21
115	16	2,5	48	31	10
230	8	1,3	110	14	4,5

Insulation	Volt rms, 1 min
Contact open	1000 V
Contact/contact	2,5 kV
Contact/coil	2,5 kV
Insulation resistance at 500 V	≥ 1 GΩ
Insulation, IEC 61810-1	2,5 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C / -40 ... 80 °C
Minimum pulse length for ON/OFF	50 ms
Mechanical life ops	AC: 10 Mill./DC: 20 Mill. switching cycles
DC voltage endurance at rated load	≥ 100000 switching cycles
Switching frequency at rated load	≤ 1200/h
Protection class	IP40
Weight	95 g

Standard types

VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)

VDC 12, 24, 48, 110

C4-R30/AC ... V	C4-R38/AC ... V	C4-R39/AC ... V
C4-R30/DC ... V	C4-R38/DC ... V	C4-R39/DC ... V

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

Accessories

Socket: **S4-J, S4-L, S4-P, S4-P0**
Optional accessories (blanking plug): **SO-NP, SO-OP**



Connection diagram

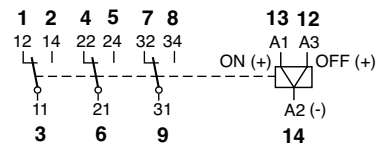


Fig. 1 AC voltage endurance

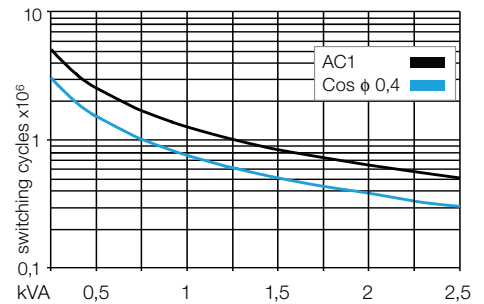
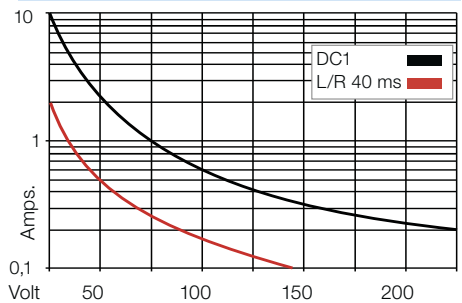
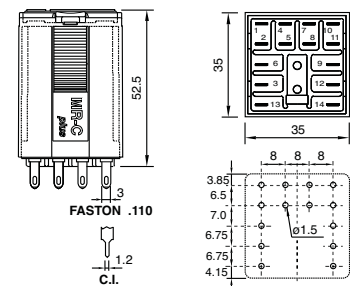


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

C5-A3x

11-pin, power relay, 3-pole, plug-in, faston

Type **C5-A3x/ ... V**
Power relays, 3 change-over contacts

Maximum contact load **16 A/400 V AC1** **0,5 A/110 V DC1**
16 A/30 V DC1 **0,2 A/220 V DC1**

Contacts
 Material Standard Code 0 AgNi
 Rated current 16 A
 Switch-on current max. (20 ms) 40 A
 Switching voltage max. 400 V
 AC load (Fig 1) 4 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 2,4 VA (AC)/1,4 W (DC)

Coil table

VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	414	58
48	286	50	48	1K6	30
115	1K7	21	110	8K1	13
230	6K8	10	220	35K6	6,2
400	18K8	6			

Insulation Volt rms, 1 min
 Contact open 1000 V
 Contact/contact 4 kV
 Contact/coil 4 kV
 Insulation resistance at 500 V ≥ 3 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 20 ms/≤ 3 ms
 Release time/bounce time 10 ms/≤ 1 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 95 g

Standard types
VAC 50 Hz/60 Hz: 24, 48, 115, (120), 230, (240) **C5-A30/AC ... V**
LED **C5-A30X/AC ... V**
RC suppresor (max 250 V) **C5-A30R/AC ... V**

VDC 24, 48, 110, 220 **C5-A30/DC ... V**
LED **C5-A30X/DC ... V**
Free wheeling diode **C5-A30DX/DC ... V**
Polarity and free wheeling diode **C5-A30FX/DC ... V**

AC/DC bridge rectifier 24 V, 48 V, 60 V **C5-A30BX/UC ... V**

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

Accessories
 Socket: **S5-S, S5-L, S5-P, S5-P0, S5-M**
 Optional accessories (blanking plug): **SO-NP, SO-OP**



Connection diagram

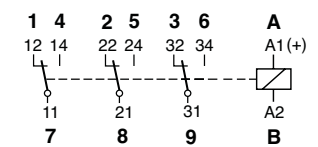


Fig. 1 AC voltage endurance

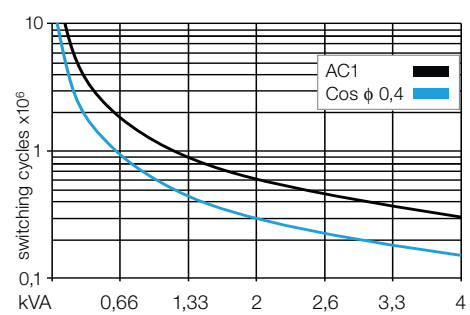
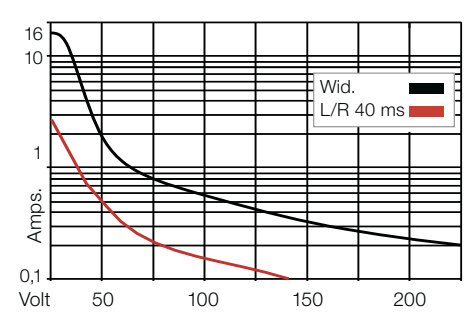
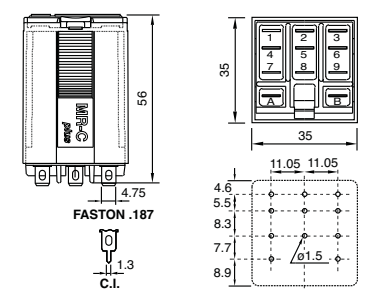


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



EN 60947; IEC 61810

Type	C5-G3x/ ... V Power relays, DC application. 3 open contacts		
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Maximum contact load	16 A/400 V AC1	1,2 A/110 V DC1
	16 A/30 V DC1	0,4 A/220 V DC1

Contacts			
Material	Standard	Code 0	AgNi
Rated current			16 A
Switch-on current max. (20 ms)			40 A
Switching voltage max.			400 V
AC load (Fig 1)			4 kVA
DC load			see Fig. 2

Coil	
Coil resistance	see table; tolerance $\pm 10\%$
Pick-up voltage	$\leq 0,8 \times U_N$
Release voltage	$\geq 0,1 \times U_N$
Nominal power	2,4 VA (AC)/1,6 W (DC)

Coil table	VAC	Ω	mA	VDC	Ω	mA
	24	65	100	12	90	133
	48	286	50	24	373	66
	115	1K7	21	48	1K4	34
	230	6K8	10	110	7K6	15
	400	18K8	6	220	30K3	7,5

Insulation	Volt rms, 1 min
Contact open	2000 V
Contact/contact	4 kV
Contact/coil	4 kV
Insulation resistance at 500 V	$\geq 3 \text{ G}\Omega$
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	20 ms/ ≤ 3 ms
Release time/bounce time	10 ms/ ≤ 1 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	95 g

Standard types	
VAC 50 Hz/60 Hz: 24, 48, 115, (120), 230, (240)	C5-G30/AC ... V
LED	C5-G30X/AC ... V
RC suppressor (max 250 V)	C5-G30R/AC ... V
VDC 12, 24, 48, 110, 220	C5-G30/DC ... V
LED	C5-G30X/DC ... V
Free wheeling diode	C5-G30DX/DC ... V
Polarity and free wheeling diode	C5-G30FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V, 60 V	C5-G30BX/UC ... V

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

Accessories	
Socket:	S5-S, S5-L, S5-P, S5-P0, S5-M
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

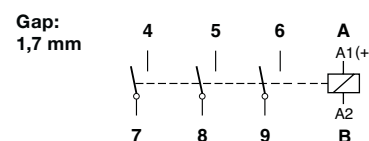


Fig. 1 AC voltage endurance

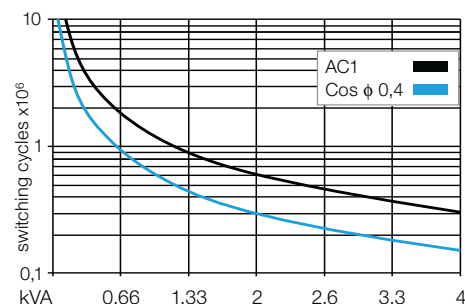
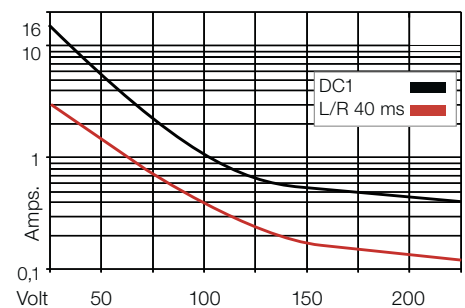
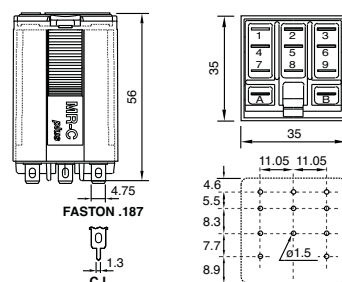


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



EN 60947; IEC 61810

C5-X1x

4-pin, power relay, 1-pole, double make, faston

Type	C5-X1x/ ... V Power relays, DC application 1 pole, NO, double make			
Maximum contact load	16 A/400 V AC1	7 A/110 V DC1		
	16 A/30 V DC1	1,2 A/220V DC13		

Contacts				
Material	Standard	Code 0	AgNi	
Rated current				16 A
Switch-on current max. (20 ms)				40 A
Switching voltage max.				400 V
AC load (Fig 1)				4 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	2,4 VA (AC)/1,3 W (DC)			

Coil table	VAC	Ω	mA	VDC	Ω	mA
	24	65	100	12	110	108
	48	286	50	24	443	54
	115	1K7	21	48	1K7	27
	230	6K8	10	110	9K2	12
	400	18K8	6	220	34K5	6,2

Insulation		Volt rms, 1 min
Contact open	4 kV	
Contact/contact	4 kV	
Contact/coil	4 kV	
Insulation resistance at 500 V	≥ 3 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	20 ms/≤ 3 ms
Release time/bounce time	10 ms/≤ 1 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	90 g

Standard types	C5-X10/AC ... V
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C5-X10X/AC ... V
LED	C5-X10R/AC ... V
RC suppressor (max 250 V)	
VDC 12, 24, 48, 110, 220	C5-X10/DC ... V
LED	C5-X10X/DC ... V
Free wheeling diode	C5-X10DX/DC ... V
Polarity and free wheeling diode	C5-X10FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V, 60 V	C5-X10BX/UC ... V

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

Accessories	
Socket:	S5-S, S5-L, S5-P, S5-P0, S5-M
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

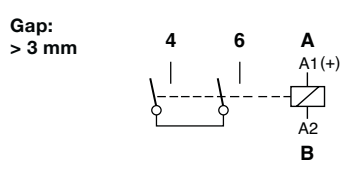


Fig. 1 AC voltage endurance

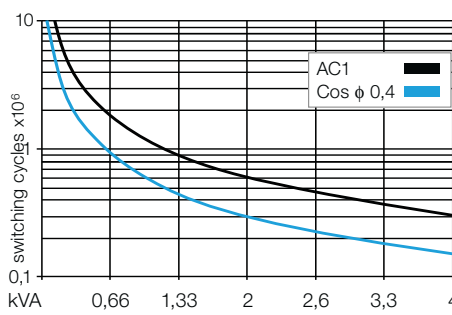
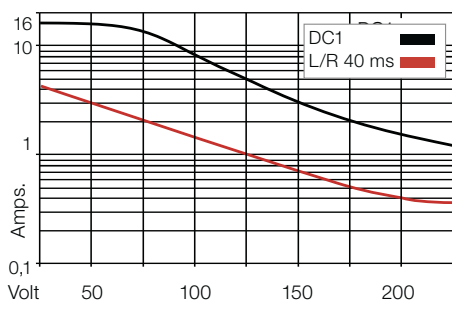
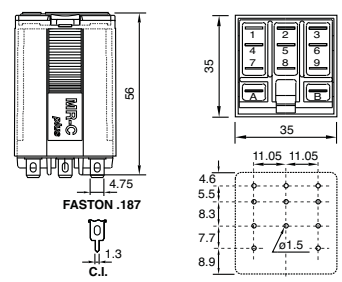


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

C5-M1x

4-pin, power relay, 1-pole double make, magnetic blow out, faston

Type	C5-M1x/ ... V Power relays, DC application 1 pole, NO, magnetic blow out			
Maximum contact load	16 A/400 V AC1	10 A/220 V DC1		
	3,6 A/110 V DC13	2 A/220 V DC13		

Contacts			
Material	Standard	Code 0	AgNi
Rated current			16 A
Switch-on current max. (20 ms)			40 A
Switching voltage max.			400 V
AC load (Fig 1)			4 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	2,4 VA (AC)/1,3 W (DC)

Coil table	VAC	Ω	mA	VDC	Ω	mA
	24	65	100	12	110	108
	48	286	50	24	443	54
	115	1K7	21	48	1K7	27
	230	6K8	10	110	9K2	12
	400	18K8	6	220	34K5	6,2

Insulation	
	Volt rms, 1 min
Contact open	4000 V
Contact/contact	4 kV
Contact/coil	4 kV
Insulation resistance at 500 V	≥ 3 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	20 ms/≤ 3 ms
Release time/bounce time	10 ms/≤ 1 ms
Mechanical life ops	AC: 10 Mill./DC: 20 Mill.
DC voltage endurance	see fig. 2
Switching frequency at rated load	≤ 1200/h
Protection class	IP40
Weight	90 g

Standard types	C5-M10/AC ... V
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C5-M10X/AC ... V
LED	C5-M10R/AC ... V
RC suppressor (max 250 V)	
VDC 12, 24, 48, 110, 220	C5-M10/DC ... V
LED	C5-M10X/DC ... V
Free wheeling diode	C5-M10DX/DC ... V
Polarity and free wheeling diode	C5-M10FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V, 60 V	C5-M10BX/UC ... V

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

Accessories	
Socket:	S5-S, S5-L, S5-P, S5-P0, S5-M
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

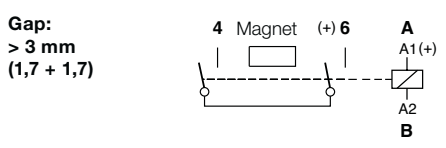


Fig. 1 AC voltage endurance

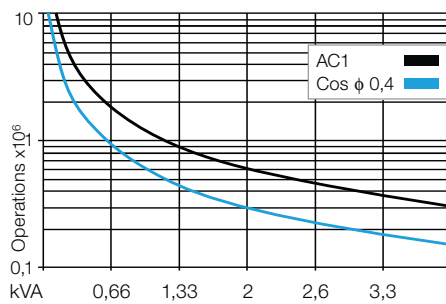
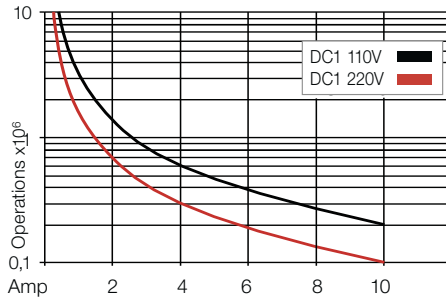
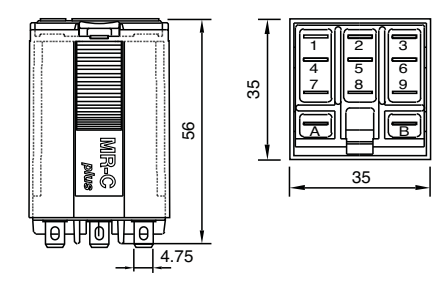


Fig. 2 DC voltage endurance



Dimensions [mm]



Technical approvals, conformities

IEC 61810; EN 60947

C5-M2x

6-pin, power relay, 2-pole normally open, magnetic blow out, faston

Type **C5-M2x/ ... V**
 Power relays, DC application
 double pole, NO, magnetic blow out

Maximum contact load **16 A @ 250 V AC1** **7 A @ 110 V DC1**
3 A @ 220 V DC1

Contacts

Material	Standard	Code 0	AgNi
Rated current			16 A
Switch-on current max. (20 ms)			40 A
Switching voltage max.			250 V
AC load (Fig 1)			4 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	2,4 VA (AC) / 1,6 W (DC)

Coil table

VAC	Ω	mA	VDC	Ω	mA
24	65	100	12	90	133
48	286	50	24	373	66
115	1K7	21	48	1K4	33
230	6K8	10.4	110	7K6	15

Insulation Volt rms, 1 min

Contact open	2 kV
Contact/contact	4 kV
Contact/coil	3 kV
Insulation resistance at 500 V	≥ 3 GΩ
Insulation, EN 60947/IEC 61810-1:	4 KV/3

Specifications

Ambient temperature operation/storage	-40 (no ice)...60 °C / -40 ... 80 °C
Pick-up time/bounce time	20 ms/≤ 3 ms
Release time/bounce time	10 ms/≤ 1 ms
Mechanical life ops	AC: 10 Mill./DC: 20 Mill. switching cycles
DC Rated load	≥ 75.000 switching cycles
Switching frequency at rated load	≤ 1200/h
Protection class	IP40
Weight	90 g

Standard types	C5-M20/AC ... V
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	C5-M20X/AC ... V
LED	C5-M20R/AC ... V
RC suppresor (max 250 V)	
VDC 12, 24, 48, 110, 220	C5-M20/DC ... V
LED	C5-M20X/DC ... V
Free wheeling diode	C5-M20DX/DC ... V
Polarity and free wheeling diode	C5-M20FX/DC ... V
AC/DC bridge rectifier 24 V, 48 V, 60 V	C5-M20BX/UC ... V

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

Accessories

Socket:	S5-S, S5-L, S5-P, S5-P0, S5-M
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

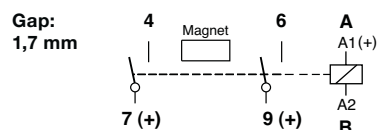


Fig. 1 AC voltage endurance

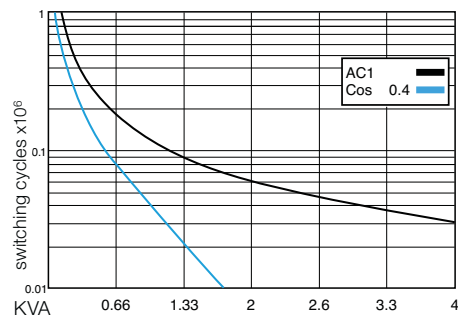
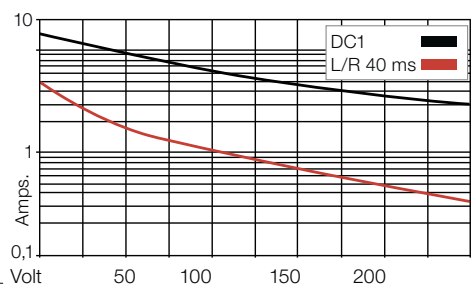
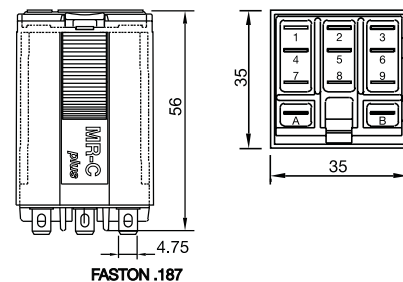


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities



IEC 61810; EN 60947

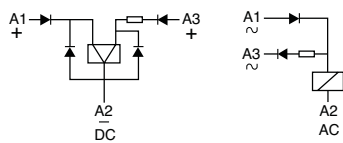
Type	C5-R2x/ ... V Magnetic latching – Remanence relays 2 change-over contact, 10A		
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Maximum contact load	10 A/400 V AC1	10 A/30 V DC1
	0,2 A/250 V DC1	0,5 A/110 V DC1

Contacts			
Material	Standard	Code 0	AgNi
Rated current			10 A
Switch-on current max. (20 ms)			30 A
Switching voltage max.			400 V
AC load (Fig 1)			4 kVA
DC load			see Fig. 2

Coil	
Coil resistance	see table; tolerance $\pm 10\%$
ON pulse power	1,5 VA/W
OFF pulse power	0,5 VA/W
1 winding for AC, 2 winding for DC	
Pull-in ON/OFF	$< 0,8 \times U_N$

Internal Diagram:



Coil table

VAC	mA ON	mA OFF	VDC	mA ON	mA OFF
24	75	12	12	125	41
48	38	6	24	63	21
115	16	2,5	48	31	10
230	8	1,3	110	14	4,5

Insulation	
Volt rms, 1 min	1000 V
Contact open	1000 V
Contact/contact	4 kV
Contact/coil	4 kV
Insulation resistance at 500 V	$\geq 3 G\Omega$
Insulation, EN 60947/IEC 61810-1	4 kV/3

Specifications	
Ambient temperature operation/storage	-40 (no ice)...60 °C / -40 ... 80 °C
Minimum pulse ON/OFF	50 ms
Mechanical life ops	AC: 10 Mill./DC: 20 Mill.
DC voltage endurance at rated load	≥ 100000 switching cycles
Switching frequency at rated load	$\leq 1200/h$
Protection class	IP40
Weight	95 g

Standard types	C5-R20/AC ... V
VAC 50 Hz/60 Hz: 24, 48, 115 (120), 230 (240)	

VDC : 12, 24, 48, 110,	C5-R20/DC ... V
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"..." Enter the voltage for full type designation

Accessories	
Socket:	S5-S, S5-L, S5-P, S5-P0, S5-M
Optional accessories (blanking plug):	SO-NP, SO-OP



Connection diagram

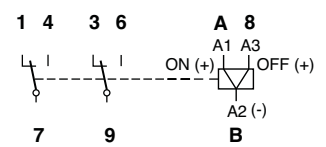


Fig. 1 AC voltage endurance

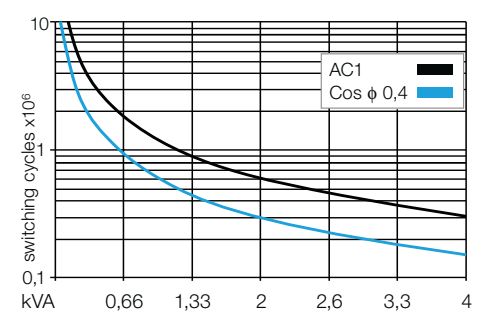
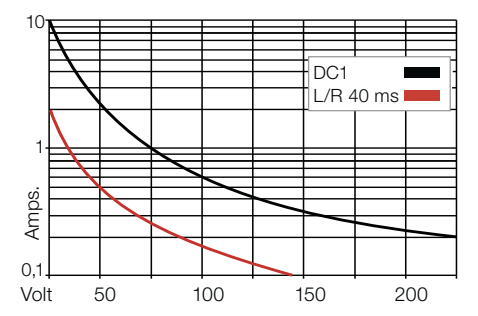
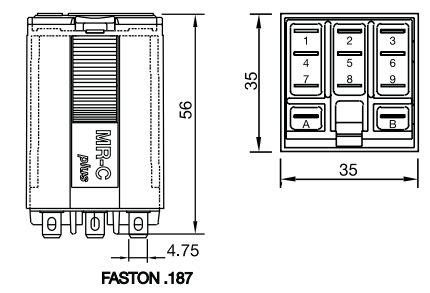


Fig. 2 DC load limit curves



Dimensions [mm]



Technical approvals, conformities



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