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	**1 mA/10 V** (with 10 µ Au) **10 mA/10 V** (standard contact)

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

Contact open	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	2150	22
72	4930	15
110	12900	9

Insulation

Pollution grade	PD3
With pulse (1,2 / 50 µs)/Dielectric streght (1Minute/V rms)	
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	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, S2-P, S3-P0**
Operational accessories (blanking plug):	**SO-NP, SO-OP**

Connection diagram

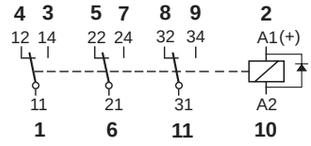


Fig. 1 AC voltage endurance

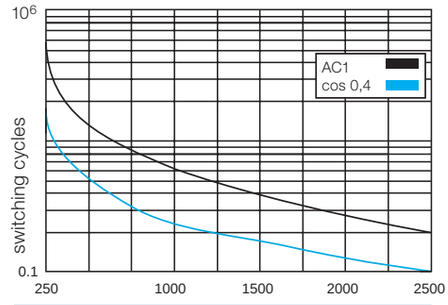
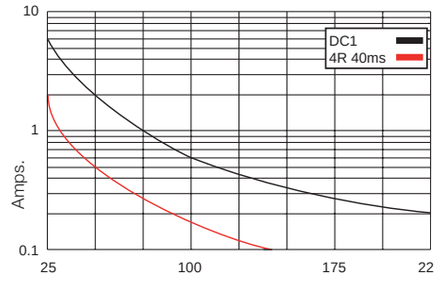
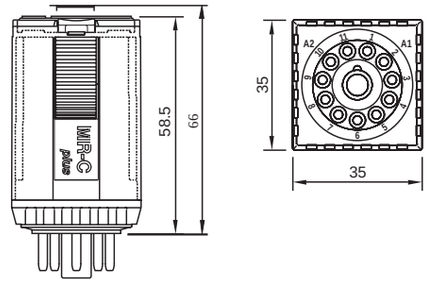


Fig. 2 DC load limit curve



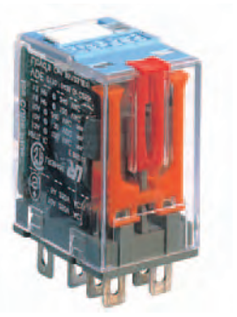
Dimensions [mm]



Technical approvals, conformities

IEC 60077/EN60077-1-2/99; EN6/373/99

QRC series
R7-A2x
8-pin, miniature standard relay, 2-pole, plug-in
Relay approval: EN 60077-1-2/99 - EN 61373/99 for Railway application



Type	**R7-A2x/DC ... V** Railway application Sensitive, 2 change-over contacts
Maximum contact load:	**10 A/250 V AC1 6 A/250 V AC5a/b**
Recommended minimum contact load	**1 mA/10 V** (with 10 µ Au) **10 mA/10 V** (standard contact)

Contacts

Material	Standard	Code 0	AgNi
	Optional	Code 4	AgNi + 0,2µ Au
	Optional	Code 8	AgNi + 10µ Au
Rated current			10 A
Switch-on current max. (20 ms)			30 A
Switching voltage max.			250 V
AC load			see fig. 1
DC load			see fig. 2

Coil

Coil resistance	see table; tolerance ± 10 %
Contact open	0,7 U_N bei 1,25 U_N
Release voltage	≥ 0,1 x U_N
Nominal power	1,07 W

Coil table

Voltage	Ω ± 10%	mA
24	535	45
48	2004	24
72	4750	15
110	11337	10

Insulation

	Volt rms, 1 min
Pollution grade	PD3
Pulse (1,2 /50_s) Dielectric streght (1Minute/V rms)	
Contact/coil	4KV / 2200V
Between different poles	4KV / 2200V
Between contact and the same pole	1550 / 850V

Specifications

Ambient temperature operation/storage	-25 (no ice)….70 ºC /-40 ... 80 °C
Number of mechanical operations	>20millions
Thermic class	B (130º C)
Vibration : category / class	1 / B Body mounted
Vibration	5-150Hz (3 axes)
Shock	5g (3 axes)
Operation (UN) / release time	10 ms/ 15 ms
Weight	35 g
Weight avg. Relay + Socket (S3-B)	75g
Protection class	IP40

Standard types

DC 24, 48, 72, 110	**R7-A20/DC ... V**	**R7-A24/DC ... V**	**R7-A28/DC ... V**
LED	**R7-A20X/DC ... V**	**R7-A24X/DC ... V**	**R7-A28X/DC ... V**
Free wheeling diode	**R7-A20D/DC ... V**	**R7-A24D/DC ... V**	**R7-A28D/DC ... V**
LED + free wheeling diode	**R7-A20DX/DC ... V**	**R7-A24DX/DC ... V**	**R7-A28DX/DC ... V**

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

Accessories

Socket: **S7-M, S7-I/O, S7-L, S7-P, S7-P0**

Connection diagram

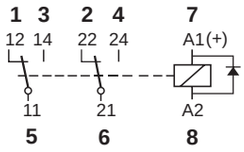


Fig. 1 AC voltage endurance

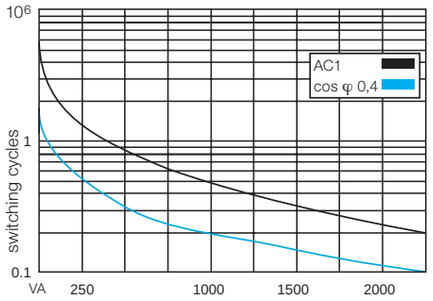
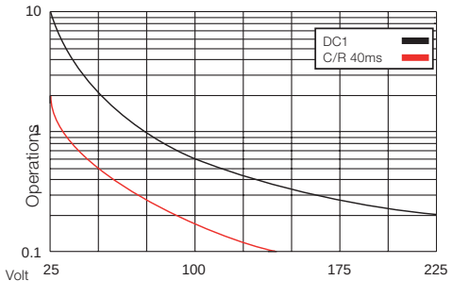
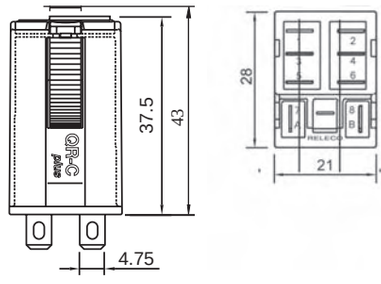


Fig. 2 DC load limit curve



Dimensions [mm]



Technical approvals, conformities

EN 60077-1-2; EN 61373/99

QRC series
R7-T2x
8-pin, miniature industrial relay, 2-pole, change-over contact, faston
Relay approval: EN 60077-1-2/99 - EN 61373/99 for Railway application

Type	**R7-T2x/DC ... V** Railway application Sensitive, 2 change-over contact
Maximum contact load	**6 A 250 V AC1 6 A 30 V DC1**
Recommended minimum contact load	**1 mA/10 V** (with 10 µ Au) **5 mA/5 V** (standard contact)

Contacts

Material	Standard	Code 1	AgNi + 0,2µ Au
	Optional	Code 2	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			100.000 switching cycles

Coil

Coil resistance	see table; tolerance ± 10 %
Contact open	0,7 U_N bei 1,25 U_N
Operation range	≥ 0,1 x U_N
Nominal power	1,07 W

Coil table

Voltage	Ω ± 10%	mA
24	535	45
48	2004	24
72	4750	15
110	11337	10

Insulation	Volt rms, 1 min
Pollution grade	PD3
Pulse (1,2 /50_s)	
Dielectric streght (1Minute/V rms)	
Contact/coil	4KV / 2200V
Between different poles	4KV / 2200V
Between contact and the same pole	1550 / 850V

Specifications

Ambient temperature operation/storage	-25 (no ice)….70 ºC /-40 ... 80 °C
Number of mechanical operations	>20 millions
Thermic class	B (130º C)
Vibration : category / class	1 / B Body mounted
Vibration	5-150Hz (3 axes)
Shock	5g (3 axes)
Operation (UN) / release time	10 ms/ 15 ms
Weight	35 g
Weight avg. Relay + Socket (S3-B)	75g
Protection class	IP40

Standard types

DC 24, 48, 72, 110	**R7-T21/DC ... V**	**R7-T22/DC ... V**
LED	**R7-T21X/DC ... V**	**R7-T22X/DC ... V**
Free wheeling diode	**R7-T21D/DC ... V**	**R7-T22D/DC ... V**
LED + free wheeling diode	**R7-T21DX/DC ... V**	**R7-T22DX/DC ... V**

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

Accessories

Socket: **S7-M, S7-I/O, S7-L, S7-P, S7-P0**

Connection diagram

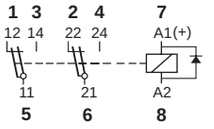


Fig. 1 AC voltage endurance

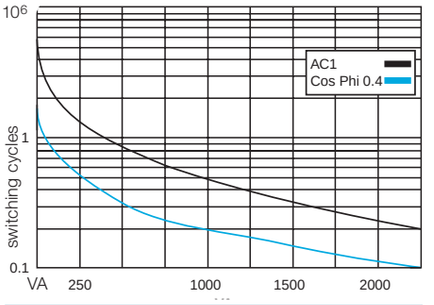
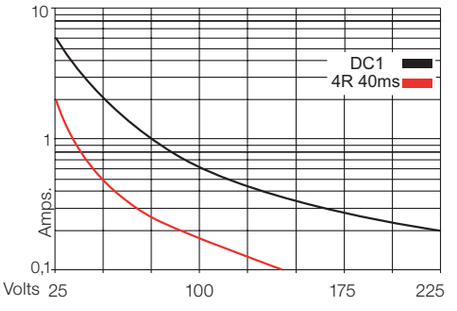
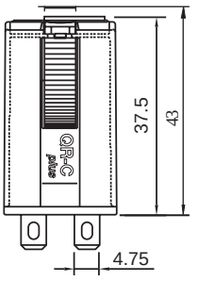
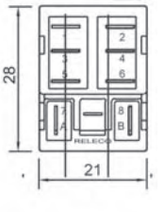


Fig. 2 DC load limit curve



Dimensions [mm]





Technical approvals, conformities

IEC 60077; EN 60077-1-2; EN 61373/99