Technical data sheet

Relay Module

Identification

Type	RE 6-2014 / FK DC 24V
Part No.	762014

Product version

Datasheet version	05

Use/Application/Properties

Description	This universal-relay-coupler component is designed for the output-coupler level. The activation occurs via DC 24 V. There is a 250 V / 6 A common available on the load side for the switching of small to medium loads.

Input

Rated voltage U_N	DC 24 V
Voltage range	DC 16.8 V – 30 V
Rated current (at U_N)	22 mA
Status indication LED	Yellow LED
Protection device Input	Bridge rectifier
Rated insulation voltage	150 V
Degree of pollution	2
Over voltage category	I
Activation voltage	>16.8 V
Interrupting voltage	<2.4 V

Output

Switching voltage	AC/DC 1 V – 250 V
Switching current	AC/DC 0.001 A – 6 A
Switching capacity	AC/DC max. 1500 VA / see Load limit curve
Protection device output	none
Inrush peak current	4 s 10 A 10 % duty factor
Switch-on delay	approx. 5 ms

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Shutdown delay	approx. 5 ms
Contact material	$AgSnO_2$ hard-gold-plated
Capacity of hard-gold-plating	24 V / 10 mA
Rated insulation voltage	250 V
Degree of pollution	2
Over voltage category	I
Switching capacity according to EN 60947-5-1	**AC 15:** 3 A @ 24 V / 3 A @ 115 V / 3 A @ 230 V **DC 13:** 1 A @ 24 V / 0.2 A @ 115 V / 0.1 A @ 230 V
Bounce time	approx. 5 ms

Technical data

Connection type	Spring terminal: single stranded 0.08 – 2.5 mm², fine stranded 0.08 – 2.5 mm² Stripping length: 6 – 7 mm Screwdriver: 3.5 × 0.6 mm
Clearance/creepage dist. (control/load side)	>5.5 mm
Safe isolation	yes
Rated insulation voltage	300 V
Standing surge voltage	6 kV
Contact type	1 change over contact
Critical frequency	(at 50 % duty factor) <360 / h
Mechanical service life	> 10 × 10^6 operations
Operation temperature range	-40 °C … +70 °C (+85 °C 10 min)
Storage temperature range	-40 °C … +80 °C

General

Dimensions (w × h × d)	6.2 mm × 80.0 mm × 85.0 mm
Weight/unit	0.025 kg
Housing material	PPE + PS-FR
Form	Microcompact

Environmental service conditions

Degree of pollution	2
Over voltage category	III
Degree of protection	IP20

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	129 fit
Failure rate at +45 °C	7744494 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.

Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

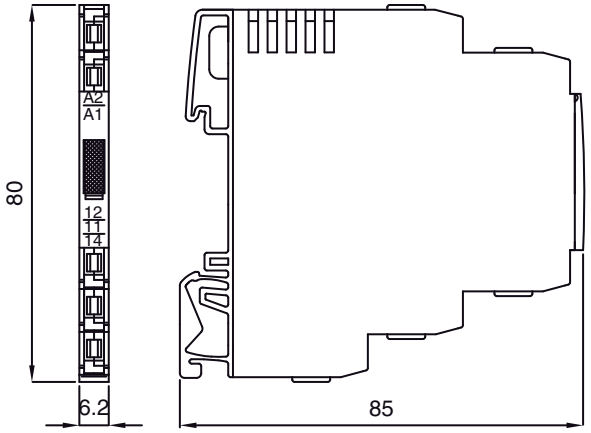
Standards/Certifications

Standards	**EN 50155:2021:** Railway applications – Rolling stock – Electronic equipment – only testing according to chapter 13.3 **EN 50121-3-2:2016+A1:2019:** Railway applications – Electromagnetic compatibility – Part 3-2: Rolling stock – Apparatus **EN 50124-1:2017:** Railway applications – Insulation coordination – Part 1: Basic requirements – Clearances and creepage distances for all electrical and electronic equipment **EN 61373:1999:** Railway applications – Rolling stock equipment – Shock and vibration tests **EN 61373:2010:** Railway applications – Rolling stock equipment – Shock and vibration tests **EN 45545-2:2020:** Railway applications – Fire protection on railway vehicles – Part 2: Requirements for fire behaviour of materials and components

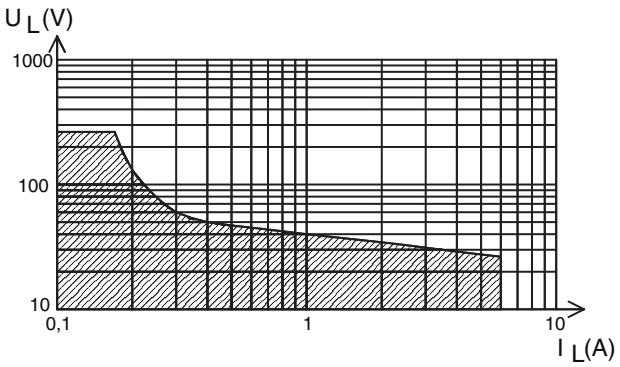
Notes and Comments

Comments	Inductive loads must be wired with a suitable suppressor element! When the module has been used once over the power limit of the hard gold plating it can no longer be used in the switching range below the power limit.

Dimensions



Load limit curve



Circuit diagram