1. General

REA 107 is an extension unit designed to be used together with the arc protection relay REA 101. The function of the unit is to detect light and to provide the REA 101 relay with information about this. The use of the extension unit allows the protection area to be extended and the object to be divided into smaller areas.

1.1. Features

- Eight lens type sensors for arc detection
- Two signal relays
- Two RJ-45 ports for the connection to a REA 101 relay and/or other extension units
- Self-supervision unit monitoring operating voltages
- LED indicators for each sensor

8. Technical data

Signal contacts (Light 1...4, Light 5...8)		
	Maximum system voltage	250 V dc/ac
	Continuous carry	5 A
	Make and carry for 0.5 s	10A
	Make and carry for 3 s	8A
	Breaking capacity for dc, when the control circuit time constant L/R ≤ 40ms, at 48/110/220 V dc	1 A/0.25 A/0.15 A
Power consumption (operating voltage over the port of REA 101)		
	Under quiescent conditions/ maximum	~1.7 W / ~2.7 W
	Note: Maximum of 5 extension units can be linked to one port of REA 101	
Lens sensor		
	Normal service temperature range	-40... +100 °C
	Maximum service temperature, max 1h	+140 °C
	Minimum permissible bending radius of the connection fibre	100 mm
Connection cable (master-slave)		
	Max. length [1)]	40 m
Operating time		
	Operating time from the light	< 1.0 ms
Environmental conditions		
	Service temperature range	-10... +55 °C
	Transport and storage temperature range	-40...+70 °C
	Storage temperature test	acc. to IEC 68000-2-48
	Damp heat test	acc. to IEC 68000-2-30 (BS 2011: Part 2.1 Db)
	Dry heat test	acc. to IEC 68000-2-2 (BS 2011: Part 2.1 B)
	Dry cold test	acc. to IEC 68000-2-1 (BS 2011: Part 2.1 A)
Enclosure		
	Degree of protection, IEC 60529	IP 20
	Weight	1.0 kg
Insulation tests		
	Dielectric test acc. to IEC 60255-5	2 kV, 50 Hz, 1 min
	Impulse voltage test acc. to IEC 60255-5	5 kV, 1.2/50 µs, 0.5 J
	Insulation resistance test acc. to IEC 60255-5	> 100 MΩ, 500 Vdc
Electromagnetic compatibility tests		
	1 MHz burst disturbance test acc. to IEC 60255-22-1	
	• common mode	2.5 kV
	• differential mode	1.0 kV
Electrostatic discharge test		
	acc. to IEC 61000-4-2 and IEC 60255-22-2	
	class III	
	• contact discharge	6 kV

	• air discharge	8 kV
Radio frequency electromagnetic field disturbance test		
	acc. to IEC 61000-4-3 and IEC 60255-22-3 (2000)	
	• frequency	80 - 1000 MHz
	• field strength	10 V/m (rms), amplitude-modulated
Radio frequency electromagnetic field disturbance test		
	acc. to ENV 50204 and IEC 60255-22-3 (2000)	
	• frequency	900 MHz
	• field strength	10 V/m, pulse-modulated
Radio frequency electromagnetic field disturbance test		
	acc. to IEC 60255-22-3 (1989)	
	• test with a portable transmitter, method C	f = 77.2 MHz, P = 6 W f = 172.25 MHz, P = 5 W
Radio frequency disturbance test		
	acc. to IEC 61000-4-6	
	• conducted, common mode	10 V, 150 kHz...80 MHz
Fast transient disturbance test		
	acc. to IEC 60255-22-4 and IEC 61000-4-4	4 kV
Surge immunity test		
	acc. to IEC 61000-4-5	
	signal output contacts	
	• line to earth	2 kV
	• line to line	1 kV
Electromagnetic emission tests		
	acc. to EN 55011, class A and IEC 60255-25	
	• limits for radiated RF emission	EN 50081-2 and EN 50263
	• limits for conducted RF emission (mains terminal)	EN 50081-2 and EN 50263
Power frequency (50 Hz) magnetic field		
	acc. to IEC 61000-4-8	
	• continuous	100 A/m
	• 1 to 3 s	300 A/m
Mechanical tests		
	Vibration tests acc. to IEC 60255-21-1	class 1
	Shock and bump test acc. to IEC 60255-21-2	class 1
	Seismic tests acc. to IEC 60255-21-3	class 2

[1)] Total length of the connection chain between the central unit and extension units