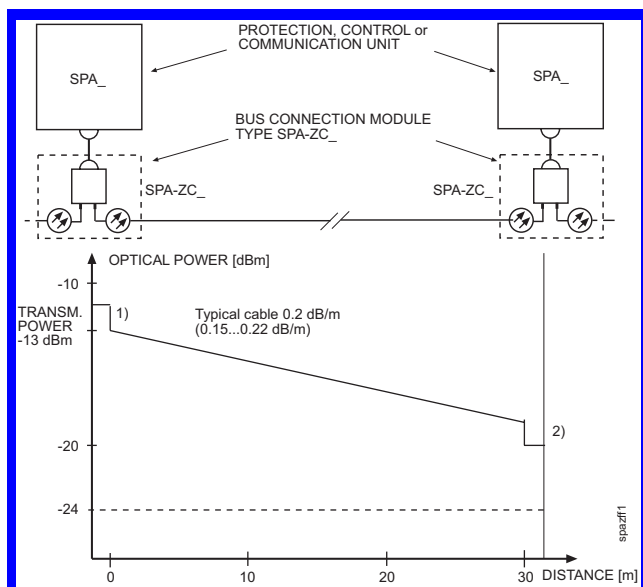


Product Guide



Features

- Simple mounting, no special tools needed
- Immunity to electrical and electromagnetic interference
- Economical bus solution in comparison with electrical bus
- Standard lengths of cables with pre-mounted opto-connectors

Application

The various protection, control and annunciator units of the SPACOM and REF, REM, REC and REX products are linked together via the SPA bus, which physically is composed of fibre-optic cables. Two types of fibre-optic cables are used, i.e. plastic core cables and glass-fibre core cables.

Design

The plastic core and glass fibre cables have different optic specifications. Plastic-core cables are used for shorter distances, i.e. under 30 m, whereas glass-fibre cables can be used for distances up to 1000 m. The transmission distance is the distance between two adjacent bus connection modules, which means that the total length of the cable loop can be longer than the transmission distance given above.

To facilitate mounting the fibre-optic cables are delivered with pre-mounted opto-connectors. Thus no special tools are needed for connecting and opening the cables. The fibre-optic cables are available in standard lengths. Cables with customized lengths are supplied on request.

The best advantage of a data bus using optical fibres is that a disturbance-free communication is obtained. Light signals transmitted via opto-fibres are completely immune to electrical and electromagnetic interference. Being isolators the fibre-optic cables also prevent current from flowing between the SPACOM and REF, REM, REC and REX products of a system because the different devices may be on different potential levels. This means that the conventional electrical pilot wires of a substation switchgear installation, to a great extent, are replaced with fibre-optic cables which transfers measured values, control commands, status and event data, etc.

Technical data

Table 1: Glass fibre cables

Core material	Glass fibre
Standard cable lengths	1...100 m
Max. recommended cable length	1000 m

Table 2: Plastic cables

Core material	Plastic
Standard cable lengths	1...30 m
Max. recommended cable length	30 m

Ordering

When ordering, please specify:

Ordering information	Ordering example
1. Type designation and quantity	SPA-ZF MM 1, 10 pieces
2. Order number	RS 951 009-AA

Order numbers

Glass fibre cables with mechanical protection. These cables are recommended for indoor mounting under dry conditions.		
SPA-ZF MM 1	1 m	RS 951 009-AA
SPA-ZF MM 3	3 m	RS 951 009-BA
SPA-ZF MM 5	5 m	RS 951 009-CA
SPA-ZF MM 10	10 m	RS 951 009-DA
SPA-ZF MM 15	15 m	RS 951 009-EA
SPA-ZF MM 20	20 m	RS 951 009-FA
SPA-ZF MM 25	25 m	RS 951 009-GA
SPA-ZF MM 30	30 m	RS 951 009-HA
SPA-ZF MM 40	40 m	RS 951 009-KA
SPA-ZF MM 50	50 m	RS 951 009-LA
SPA-ZF MM 60	60 m	RS 951 009-MA
SPA-ZF MM 70	70 m	RS 951 009-NA
SPA-ZF MM 80	80 m	RS 951 009-PA
SPA-ZF MM 90	90 m	RS 951 009-RA
SPA-ZF MM 100	100 m	RS 951 009-SA

Glass fibre cables without mechanical protection. These cables are recommended for mounting in cabinets and tubes under dry conditions.		
SPA-ZF1 MM 1	1 m	RS 951 009-AB
SPA-ZF1 MM 3	3 m	RS 951 009-BB
SPA-ZF1 MM 5	5 m	RS 951 009-CB
SPA-ZF1 MM 10	10 m	RS 951 009-DB
SPA-ZF1 MM 15	15 m	RS 951 009-EB
SPA-ZF1 MM 20	20 m	RS 951 009-FB
SPA-ZF1 MM 25	25 m	RS 951 009-GB
SPA-ZF1 MM 30	30 m	RS 951 009-HB
SPA-ZF1 MM 40	40 m	RS 951 009-KB
SPA-ZF1 MM 50	50 m	RS 951 009-LB
SPA-ZF1 MM 60	60 m	RS 951 009-MB
SPA-ZF1 MM 70	70 m	RS 951 009-NB
SPA-ZF1 MM 80	80 m	RS 951 009-PB
SPA-ZF1 MM 90	90 m	RS 951 009-RB
SPA-ZF1 MM 100	100 m	RS 951 009-SB

Plastic core fibre-optic cables		
SPA-ZF AA 1	1 m	RS 951 007-AA
SPA-ZF AA 3	3 m	RS 951 007-BA
SPA-ZF AA 5	5 m	RS 951 007-CA
SPA-ZF AA 10	10 m	RS 951 007-DA
SPA-ZF AA 20	20 m	RS 951 007-EA
SPA-ZF AA 30	30 m	RS 951 007-FA



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