



# SUHNER® SERIES 3411 AND 3412 DATA LINE PROTECTORS

## Description

SUHNER series 3411 and 3412 data line protectors provide surge protection for sensitive electronic equipment connected to coaxial data lines. Series 3411 protectors provide first stage protection with high surge current handling capability. Series 3412 protectors take care for the fine protection with low residual pulse energy output in combination with the 3411 products. They are designed to meet the requirements for high speed data traffic from 2 Mbps up to 155 Mbps according to standard ITU-T G.703. The application recommendation is to use them combined in series. For any single use the operation conditions should match with the detailed specifications of the single protectors.



## Features

Series 3411 and 3412 protectors combined:

- Current handling capability 10 kA (8/20  $\mu$ s test pulse acc. to IEC 61000-4-5)
- Residual pulse energy <80  $\mu$ J (4 kV, 1.2/50  $\mu$ s; 2 kA, 8/20  $\mu$ s test pulse acc. to IEC 61000-4-5)
- Slim inline design
- Characteristic impedance 75 Ohms
- Connectorization DIN 1.6/5.6 (others on request)
- Bulkhead mountable

## Application

Suitable for any kind of communications equipment including wireless systems with network interface based on coax. Today's applications comprise base stations of mobile phone systems and fixed wireless access systems including broadband systems (WLL, ISM, MMDS, LMDS, U-NII and WLAN), switching and cable distribution networks.

# Specification

## Electrical Data ..... Requirements

RF:

Impedance ..... 75 Ω  
 Frequency range ..... 0.3 - 240 MHz  
 Return loss ..... refer to product detail specification  
 Insertion loss ..... refer to product detail specification  
 RF power transmission ..... refer to product detail specification

Protection:

Surge current handling capability ... 10 kA once, 5 kA multiple (8/20 μs test pulse) when using 3411  
 Residual pulse ..... refer to product detail specification

## Mechanical Data ..... Requirements

Coupling nut torque force ..... 0.3 Nm/2.7 in. lbs  
 Durability (matings) ..... 500  
 Bulkhead mounting torque force: .... 1.0 Nm/8.9 in. lbs

## Environmental Data ..... Requirements/Test Conditions

Operation temperature range ..... -40 °C... +85 °C / -40 °F... +185 °F  
 Waterproof degree (IEC 529) ..... IP 20 according to IEC 60529

## Material Data

Component Part	Standard	Material	Plating
Housing	QQ-B-626	brass	silver plating/ gold flash
Male contacts	QQ-B-626	brass	gold
Female contacts	QQ-C-530	CuBe2	gold
Insulators	ASTM-D-1457	PTFE	

## Products

Series 3411, item no. 23 020 492

## Description

Dataline gas capsule protector

Static sparkover voltage ..... 150 - 250 V

Surge current handling capability ... 10 kA once and 5 kA multiple (test pulse 8/20  $\mu$ s)

Residual pulse energy .....  $\leq 0.45$  mJ (test pulse 4 kV 1.2/50 $\mu$ s/2kA 8/20 $\mu$ s)

..... acc. to IEC 61000-4-5)

RF power transmission .....  $\leq 60$  Watts



SUHNER Type	Frequency Range (MHz)	Connectors Unprotected/Protected Side* If bulkhead mount version, side of bulkhead marked "b".	Mounting/Grounding MH - hole for "b" M - screw brk - bracket	RL min.	IL max.	Water- proof	Weight	Drawing
3411.70.0001	DC-240	1.6/5.6(m) - 1.6/5.6(f), b	MH33	20 dB	0.2 dB	IP20	32 g	fig. 1

## Products

Series 3412, item no. 23 020 278

## Description

Dataline Fine Protector, DC blocked

Data transmission rate ..... 2MBit/s to 156 MBit/s (ITU-T G.703)

Protection:

Current handling capability ..... 300A, 8/20  $\mu$ s (IEC 61000-4-5)

This Fine Protector is designed to be used in combination with a gas capsule protector series 3411.

In this combination the following specification is valid:

Surge current handling capability ... 10 kA once and 5 kA multiple (test pulse 8/20  $\mu$ s)

Residual pulse energy .....  $\leq 80$   $\mu$ J (test pulse 4 kV 1.2/50 $\mu$ s/2kA 8/20 $\mu$ s)

..... acc. to IEC 61000-4-5)



SUHNER Type	Frequency Range (MHz)	Connectors Unprotected/Protected Side* If bulkhead mount version, side of bulkhead marked "b".	Mounting/Grounding MH - hole for "b" M - screw brk - bracket	RL min.	IL max.	Water- proof	Weight	Drawing
3412.70.0001	0.3 - 100 100 - 240	1.6/5.6(m) - 1.6/5.6(f), b	MH33	20 dB 15 dB	0.20 dB 0.35 dB	IP20	35 g	fig. 2

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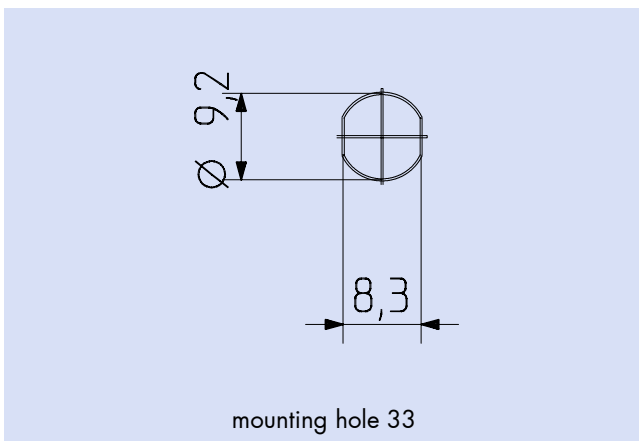
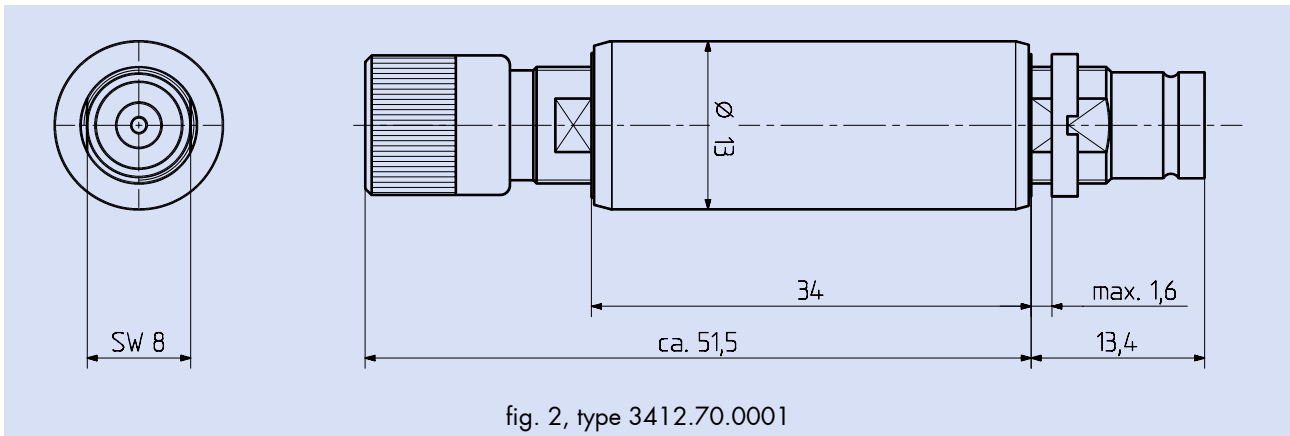
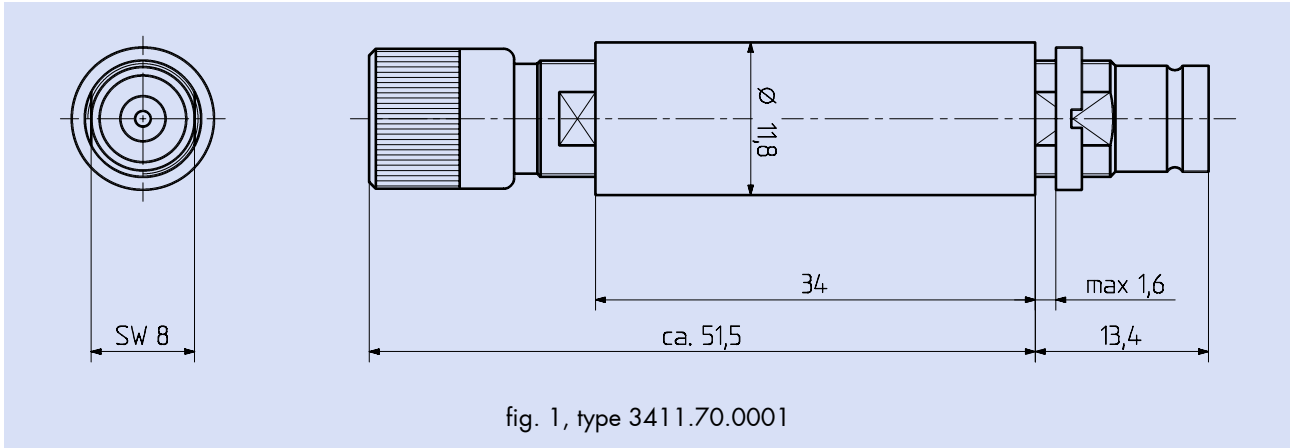
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## Dimensions



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