

# POLIM-D with SPU

## Surge arrester with spark prevention unit



### Technical data

#### Surge arrester

Characteristics of surge arrester POLIM-D data sheet 1HC0075853

#### Spark prevention unit SPU

Nominal discharge current $I_n$ (8/20 $\mu$ s)	10 kA <sub>peak</sub>
Repetitive charge transfer rating $Q_{rs}$	0.5 As (C)
Thermal charge transfer rating	
$Q_{th}$ at $T_{amb} = 40^\circ\text{C}$	1.1 As (C)
$Q_{th}$ at $T_{amb} = 55^\circ\text{C}$	0.94 As (C)
High current impulse $I_{hc}$ (4/10 $\mu$ s)	100 kA <sub>peak</sub>
Long duration current impulse	250 A for 2000 $\mu$ s

#### Insulating bracket

Creepage distance	250 mm
Flashover distance	160 mm
Long term load of surge arrester with SPU	200 Nm

#### Service conditions

Ambient air temperature $T_{amb}$	-40 to +55 $^\circ\text{C}$
Altitude	up to 1800 m (for higher altitudes contact ABB)
Frequency of system voltage	15 to 62 Hz

#### Product description:

- The **spark prevention unit SPU** is a device to avoid wildfire hazards caused by thermally overloaded surge arresters
- The SPU monitors the load and the thermal behavior of the surge arrester type POLIM-D and interrupts the current flow in case of overload
- Comparing to existing solutions, the concept of the SPU prevents the spark production instead of controlling it
- Violent arrester failures and related arcing, sparking or emission of hot particles do not occur
- The combination of surge arrester POLIM-D and SPU is considered to be spark-free according to class A of AS 1307.2
- The surge arrester POLIM-D with SPU is approved for vegetation clearance exemption according to CalFire (California Regulation)
- The SPU is approved for the application with POLIM-D and includes a trip indication well visible from ground level

#### Important note

Wildfire hazard is not verified in any type test according to IEC 60099-4. Sparks and hot particles may be ejected during short-circuit current testing. Therefore products fulfilling this standard cannot be considered as spark free without additional verification.

# Characteristics

## Trip Indication

Surge arrester with SPU in normal state

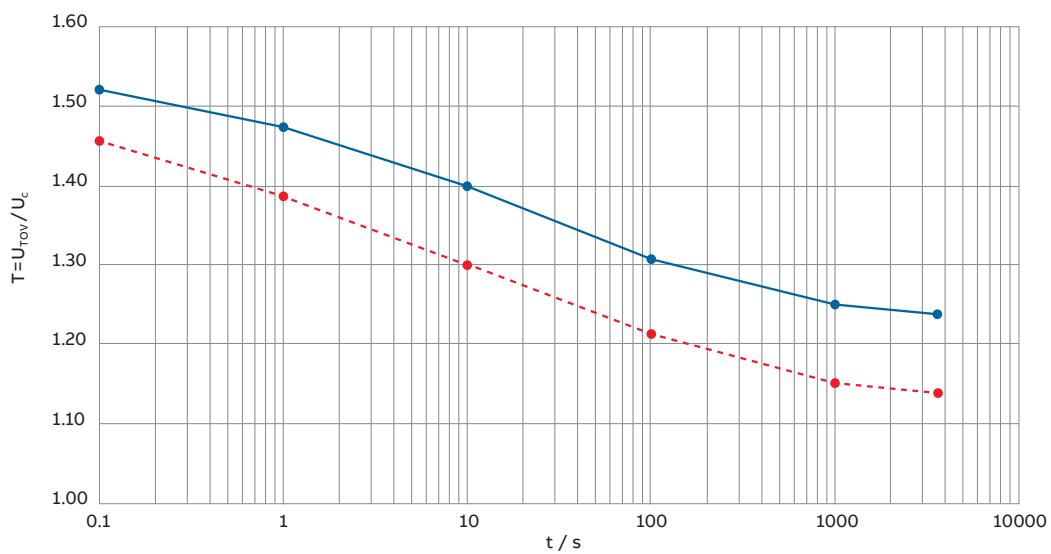


Surge arrester with triggered SPU after overload detection



The visible red sleeve located at the ground lead indicates a triggered SPU

## Load limits of POLIM-D with SPU. Power frequency versus time characteristics (TOV) based on $U_c$

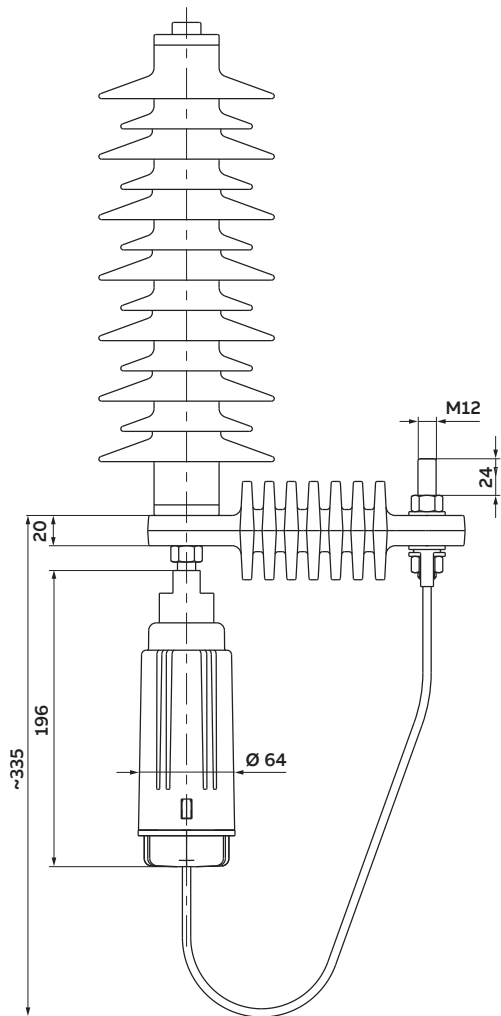


- without prior duty
- with prior duty 1.1 As (C)

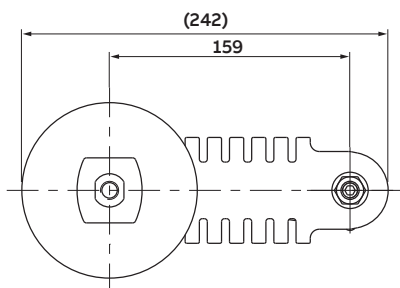
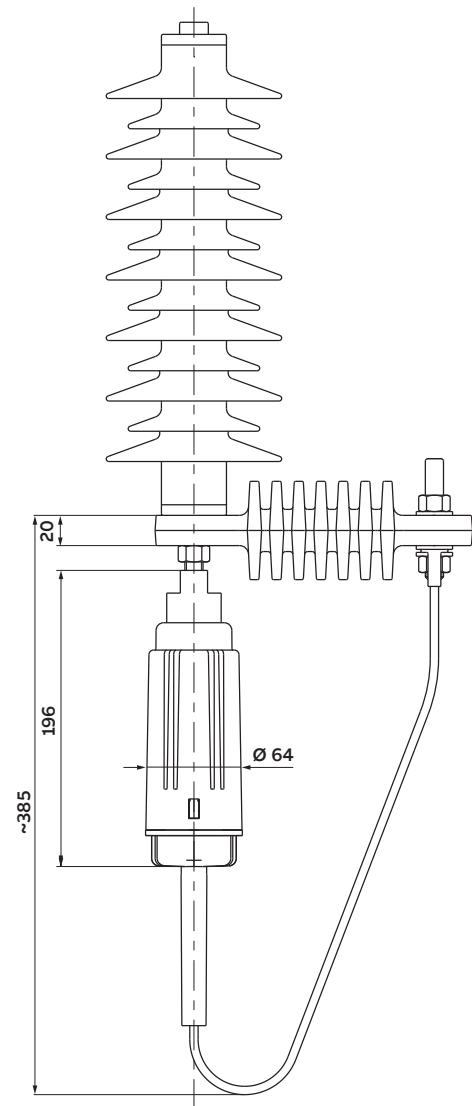
The SPU will not trigger as long as the loads are within the specified TOV range.

# Dimensions

Surge arrester with SPU in normal state



Surge arrester with triggered SPU after overload detection



For more information please contact:

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For detailed information regarding the dimensioning of our products see the following ABB documents:

- Application guidelines  
Overvoltage protection  
Metal oxide surge arresters in medium voltage systems
- Application guidelines  
Overvoltage protection  
Metal oxide surge arresters in railway facilities

For pdf or print version please send E-mail to:  
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