



# Signal SPD

Operation Display / Alarm Contact

## DA2 Series

### Signal SPD can be Preventive Maintenance

#### ■ Use

This Signal SPD can prevent damage to electronics instrument by the lightning surge invading to instrument signal line. They are 5 types of model according to different signal and all instruments have preventive maintenance function.

#### ■ Features

- \* JIS C 5381-21:2004 category, compliance with C1, C2, D1.
- \* Impulse withstand: 20kA (8/20 $\mu$ s) High withstand: 1kA (10/350 $\mu$ s).
- \* Preventive maintenance is possible, lighting-induced surge (earth): 10kA (8/20 $\mu$ s)  $\pm$ 15%. Protection function will continue if detection surge less than 20kA (8/20 $\mu$ s)  
 《Operation display change to White》  
 《Alarm contact ON: Continuous》
- \* Monitoring SPD state is possible from a long distance by alarm contact.
- \* Laborsaving to SPD maintenance by operation display and alarm contact.
- \* Replacing the main product become easy by plug-in structure, line will not open even pullout the main body from terminal block.
- \* DIN Rail mounting and wall mounting.
- \* Current rating (Max. load current) is 200mA.

**JIS C 5381-21: 2004 Category  
Compliance with C1, C2, D1**



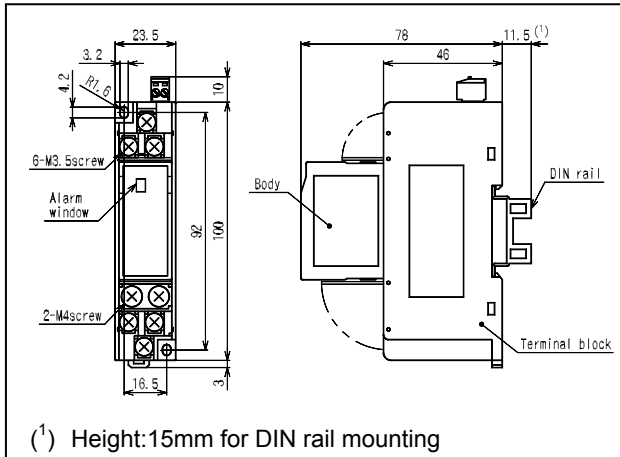
**DA2-TP  
(23.5x113x78mm)**

#### ■ Specification & Performance

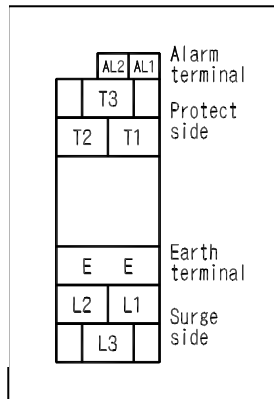
Name of Product		Signal SPD (2-wire)		Signal SPD (3-wire)		
Type Name		DA2-TP	DA2-HT	DA2-RH	DA2-RT	DA2-GT
kind of Signal		DC Signal *1	Thermocouple	Thermal Resistance	Potentionmeter	Pulse
Max. Continuous Use Voltage U <sub>c</sub>		DC30V	DC7.5V	DC3V	DC7.5V	DC14V
Voltage Protection Level Up (5kA 8/20 $\mu$ s)	Line	73V or less	23V or less	23V or less	23V or less	51V or less
	Earth	650V or less	650V or less	650V or less	650V or less	650V or less
Leakage Current	Line	5 $\mu$ A or less (at DC30V)	5 $\mu$ A or less (at DC7.5V)	2 $\mu$ A or less (at DC3V)	5 $\mu$ A or less (at DC7.5V)	5 $\mu$ A or less (at DC14V)
Impulse Durability	Earth	20kA(8/20 $\mu$ s) $\times$ 1-time, 10kA(8/20 $\mu$ s) $\times$ 5-time 1kA(10/350 $\mu$ s) $\times$ 1-time				
Current Rating (Max. load current)		200mA				
Series Resistance (1 line)		10 $\Omega$ $\pm$ 5%		10 $\Omega$ $\pm$ 0.3%(30ppm/ $^{\circ}$ C)		10 $\Omega$ $\pm$ 5% 〔Between L3-T3〕 Less than 0.1 $\Omega$
Detection for Lightning-induced Surge		Detecting point	10kA (8/20 $\mu$ s), $\pm$ 15% (between earth)			
		Operation Display	Before: Black ; After: White (continuous)			
		Alarm Contact	Before:OFF ; After:ON (continuous), Contact Capacity:AC/DC125V, 0.5A (resistance load)			

\*1, DC Signal: DC30V or less use, like DC4~20mA, DC1~5V etc.

## Block Diagram

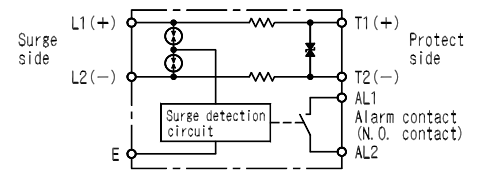


## Terminal Arrangement

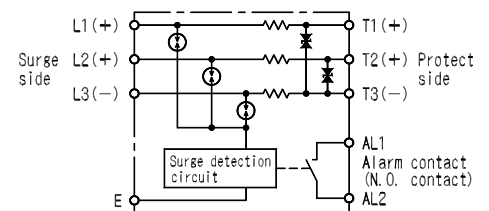


## Connection Diagram

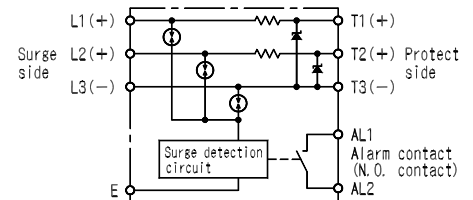
### DA2-TP, DA2-HT



### DA2-RH, DA2-RT



### DA2-GT



## Compare Terminology between JIS (DA2 Series) & (DA Series)

DA2 Series	DA Series
SPD (Surge Protective Device)	Arrester
Max. continues use voltage $U_c$	Max. line voltage
Voltage protection level	Clamping voltage
Leakage current *2	Leakage current
Impulse withstand	Withstand discharge
Rated current (Max. load current)	Max. load current
Series resistance	Internal series resistance (2-line)
Category	—
—	Spark over voltage
—	Response Time

\*2, JIS C 5381-21, use insulation resistance meter and applied max. continues use voltage  $U_c$  between terminal SPD to measure the current and resistance value. Normally insulation resistance test is difficult as high voltage but leakage current test is same like before as above chart.

## Purchase Specifications

- (1) Type Name
- (2) Quantity

Defensive function will be recoverable when the main body only is replaced after this SPD operated. But, please replace both main body and terminal block if lightning surge invading and beyond the impulse durability, main body and connecting part of terminal block (card-edge connector) will leftover the discharge traces by lightning surge current, it may cause damage to terminal block.

## Application consideration

- 1) Please pull SPD main body out of terminal block or remove SDP grounding wire during the withstand voltage test of distribution board.
- 2) Please insertion the body to terminal block less than 50 times.



**CAUTION**

- \* To ensure safety, connections are to be performed by an electrical engineer qualified in wiring.
- \* Please check the connection diagrams carefully before performing connections.
- \* Do not work with live wires, there is a risk of electric shock, which may lead to malfunction, fire or burnout.

## DAIICHI ELECTRONICS CO., LTD

Hard Office:

11-13, Hitotsuya 1-chome, Adachi-ku, Tokyo,  
121-8639 Japan  
Tel: +81-3-3885-2411  
Fax: +81-3-3858-3966

<http://www.daiichi-ele.co.jp>

No. 0903-0