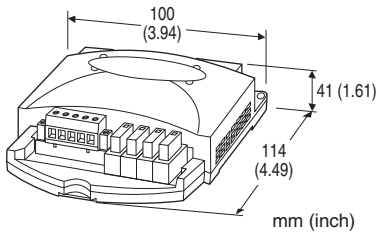
Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR DeviceNet

Load capacity 2 A

Functions & Features

•Designed specifically to protect devices connected to DeviceNet from lightning surges



MODEL: MD–DNS

ORDERING INFORMATION

• Code number: MD-DNS

GENERAL SPECIFICATIONS

Construction: Stand-alone
Connection: Euro type connector terminal
Applicable wire size: 0.2 to 2.5 mm^2, stripped length 10 mm
Housing material: Flame-resistant resin (black)
Alarm indicator: Surge absorber failure indicator turns white when the fuse is blown.
Alarm relay contact: Turns on in an abnormality of surge absorber element (when the safety fuse is blown).
Rating: 30 V DC @ 0.5 A (resistive load)
Max. switching voltage: 125 V AC/DC
Max. switching power: 25 VA
Min. load: 5 V DC @ 1 mA
ODVA approval: Not approved (No relevant product category exists for surge protectors.)

INSTALLATION

Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail
Weight: 400 g (0.88 lb)
Number of modules: Max. 4 modules per network

PERFORMANCE

Discharge voltage (peak voltage)
• **Signal line**
Line to line: ±5 V min.
Line to ground: ±280 V min.
• **Power line**
Line to line: 26 V min.
Line to ground: ±280 V min.
• **Drain**
Line to ground: ±280 V min.

Maximum surge voltage
(The maximum voltage that could pass through M-RESTER. Protected equipment must be able to withstand this voltage for very short time period.)
• **Signal line**
Line to line: ±18 V max.
Line to ground: ±800 V max.
• **Power line**
Line to line: 120 V min.
Line to ground: ±650 V max.
• **Drain**
Line to ground: ±800 V max.

Response time: ≤ 0.1 µsec.

Leakage current
• **Signal line**: ≤ 0.3 mA at ±5 V DC
• **Power line**: ≤ 0.3 mA at 26 V DC
• **Line to ground**: ≤ 20 µA at ±280 V DC

Discharge current capacity: 1500 A

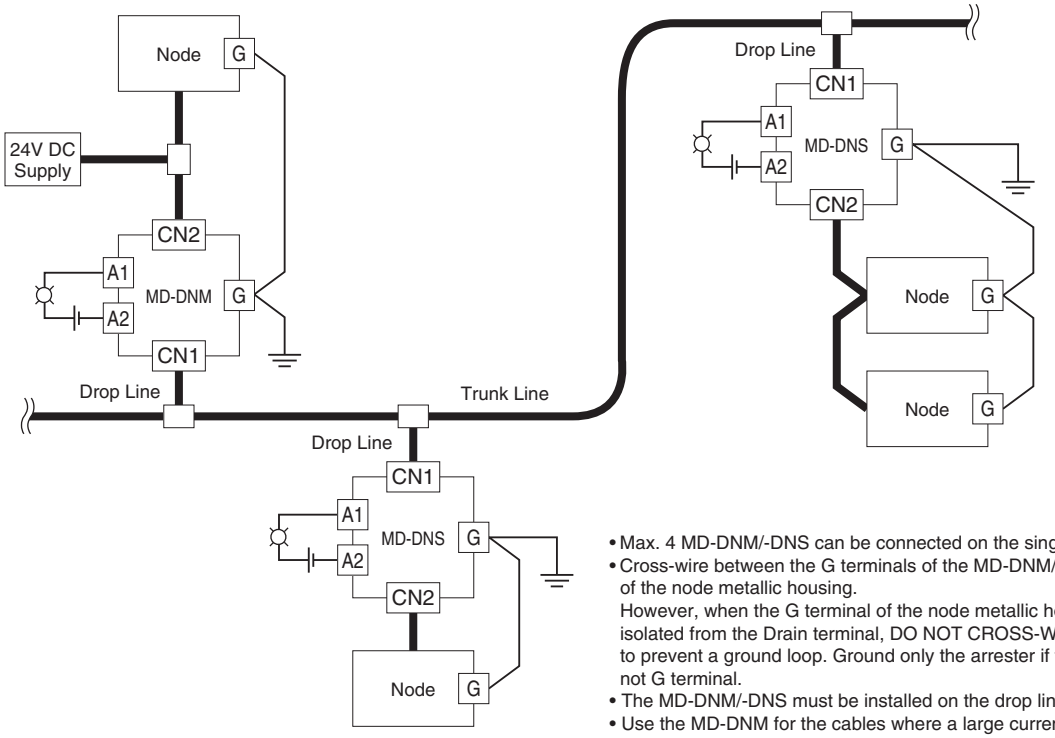
Maximum load current
• **Signal line**: 100 mA
• **Power line**: 2 A

Internal series resistance
• **Signal line**: 2 Ω × 2
• **Power line**: ≤ 0.2 Ω

Maximum line voltage
• **Signal line**: ±5 V
• **Power line**: 26 V

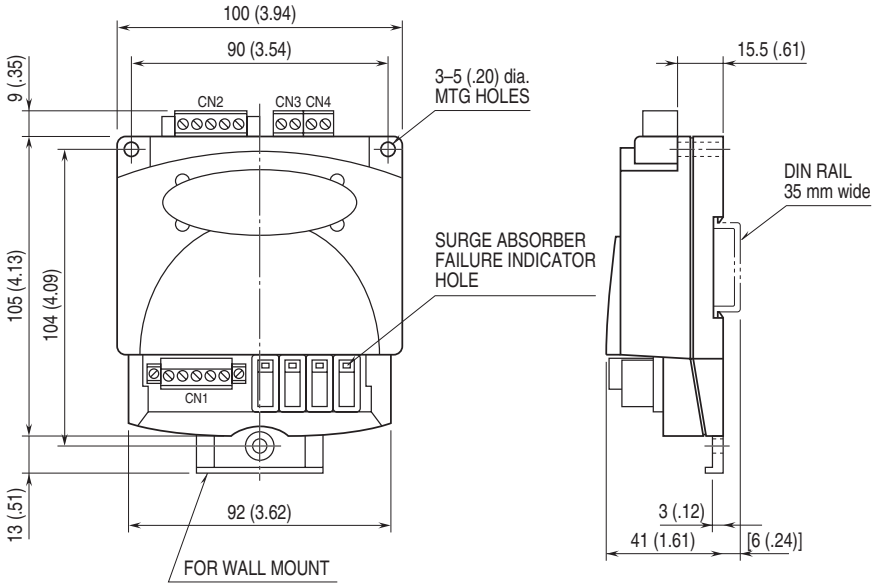
Capacitance
• **Signal line**: Approx. 25 pF @ 100 kHz
• **Line to ground**: Approx. 25 pF @ 100 kHz

CONNECTION EXAMPLES



- Max. 4 MD-DNM/-DNS can be connected on the single network.
- Cross-wire between the G terminals of the MD-DNM/-DNS and of the node metallic housing.
  However, when the G terminal of the node metallic housing is not isolated from the Drain terminal, DO NOT CROSS-WIRE in order to prevent a ground loop. Ground only the arrester if the node has not G terminal.
- The MD-DNM/-DNS must be installed on the drop lines.
- Use the MD-DNM for the cables where a large current is present.
- The individual and total length of drop lines must be shortened by 1 meter per each MD-DNM/-DNS module.

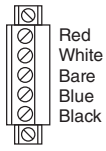
DIMENSIONS unit: mm (inch)



■ TERMINAL WIRING

•CN1

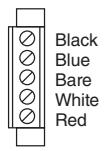
Unit side connector: MSTBV 2,5/5-GF-5,08AU (Phoenix Contact)
Cable side connector: MVSTBR 2,5/5-STF-5,08AUM (Phoenix Contact)



	FUNCTION
Red	V+
White	CAN–H
Bare	DRAIN
Blue	CAN–L
Black	V–

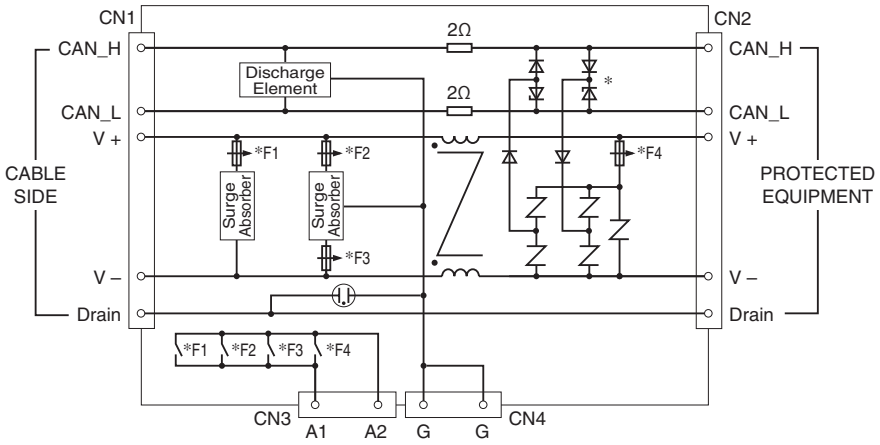
•CN2

Unit side connector: MSTB 2,5/5-GF-5,08AU (Phoenix Contact)
Cable side connector: MSTB 2,5/5-STF-5,08AUM (Phoenix Contact)



	FUNCTION
Black	V–
Blue	CAN–L
Bare	DRAIN
White	CAN–H
Red	V+

SCHEMATIC CIRCUITRY



*DO NOT CONNECT the communication line across CAN_H and CAN_L.
Such a wrong connection may destroy diodes, or result in a network malfunction caused by a power line voltage decrease.

⚠ Specifications are subject to change without notice.