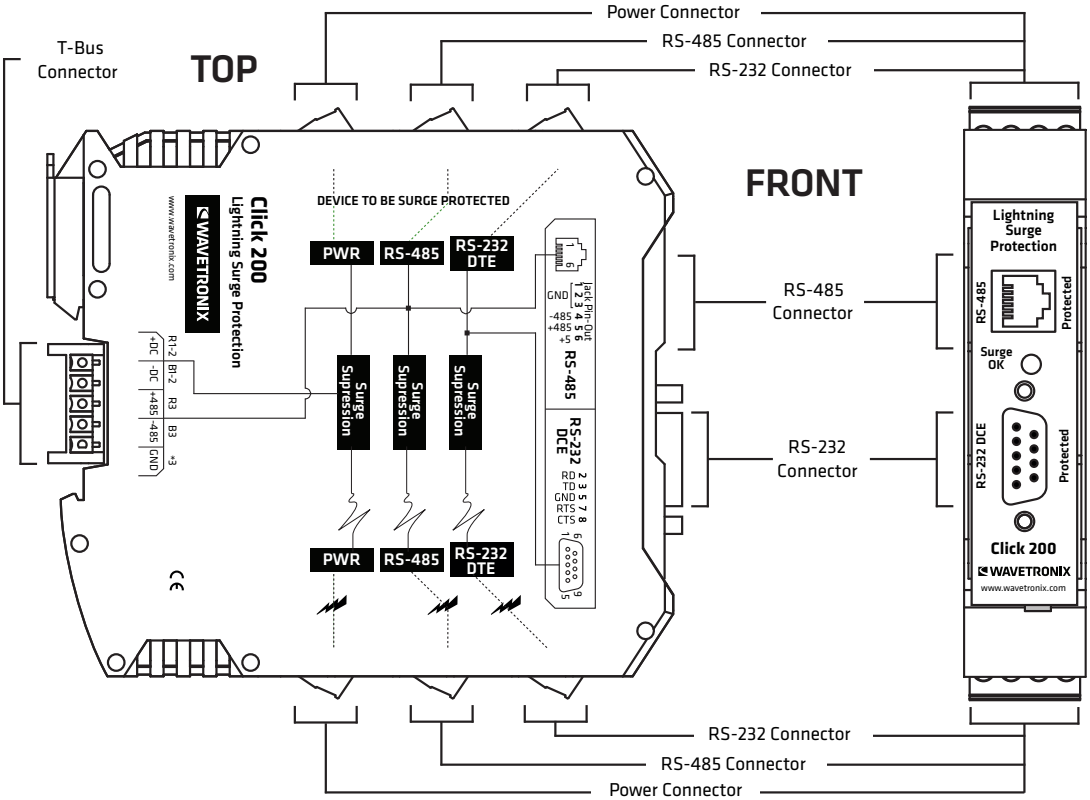
Surge protector

The Click 200 has a three-stage surge suppression design that protects SmartSensor sensors and traffic cabinets from power surges over DC power and serial communication lines.

- Multi-stage surge protection for RS-485, RS-232, and DC power
- Convenient, hot-swappable power and communication buses
- Includes unprotected communication connectors
- Protects traffic monitoring devices, such as sensors or cameras, as well as traffic cabinets
- Pluggable screw terminals minimize problems caused by incorrect wiring
- Designed for use with all other Click devices
- DIN rail–mounted for easy installation
- Complies with NEMA TS2-1998 environmental testing
- Complies with IEC/EN 61000-4-5 level 4
- Conformal coated



Technical specifications

Physical

- Weight: 0.3 lbs (0.14 kg)
- Physical dimensions: 4.5 in. × 4 in. × 0.9 in. (11.4 cm x 10.2 cm x 2.3 cm)
- Ambient operating temperature: -29°F to 165°F (-34°C to 74°C)
- Humidity: up to 95% RH

Mounting

- DIN rail–mountable
- Hot-swappable

Connections

- Screw terminals for power and communication
- Screw terminals are pluggable for easy pre-wiring
- Screw terminals compatible with 12 AWG or smaller wires
- Other ports:
  - DB-9 connector for RS-232 communication
  - RJ-11 connector for RS-485 communication
  - 5-position connector for power and RS-485 to and from the T-bus

Multi-stage surge protection

- DC power
  - Clamping voltage: 28 VDC
- RS-485
  - Clamping voltage: 8 VDC
  - Differential clamping voltage: 12 VDC
- RS-232 with CTS/RTS protection
  - Clamping voltage: 11 VDC

NEMA TS2-1998 testing

- Complies with the applicable standards stated in the NEMA TS2-1998 standard
  - Shock pulses of 10 g, 11 ms half sine wave
  - Vibration of 0.5 Grms up to 30 Hz
  - 300 V positive/negative pulses applied at one pulse per second at minimum and maximum AC supply voltage
  - Stored at -49°F (-45°C) for 24 hours
  - Stored at 185°F (85°C) for 24 hours
  - Operation at -29.2°F (-34°C) and 89 VAC
  - Operation at -29.2°F (-34°C) and 135 VAC
  - Operation at 165.2°F (74°C) and 135 VAC
  - Operation at 165.2°F (74°C) and 89 VAC

FCC testing

- FCC-compliant

Ordering information

Click 200
CLK-200

Contact us

801.734.7200
sales@wavetronix.com
www.wavetronix.com

Testing

- Passes manufacturer's test before shipping

Surge immunity

- Surge immunity sensor ports: IEC/EN 61000-4-5 level 4

Warranty

- One-year warranty against material and workmanship defect (see Click Warranty datasheet for complete details)

Bid specifications

1.0 General. This item shall govern the purchase and installation of a surge protection device (SPD) equivalent to the Wavetronix Click 200. Test results and other documentation demonstrating performance and capabilities shall be provided.

2.0 Product description. The SPD shall suppress electrical surges up to 4 kV on DC power lines, RS-485, and RS-232 with CTS/RTS communication lines to any device connected to the SPD. The SPD shall be designed to protect a radar vehicle sensing device (RSVD) equivalent to the Wavetronix SmartSensor from surges coming from a traffic cabinet, or protect a cabinet from surges coming from the RVSD.

3.0 Physical. The SPD shall not exceed 0.3 lbs. (0.14 kg) in weight.

The SPD shall not exceed 4.5 in. × 4 in. × 0.9 in. (11.4 cm x 10.2 cm x 2.3 cm) in its physical dimensions.

The SPD shall operate in the temperature range of -29°F to 165°F (-34°C to 74°C).

The SPD shall operate in humidity up to 95% RH.

4.0 Mounting. The SPD shall mount to a DIN rail with hot swappable surge protected power and communication buses for quick installation and replacement.

5.0 Connections. The SPD shall have pluggable screw terminals, compatible with 12 AWG or smaller wires, allowing the user to wire a contact closure data collector to the SPD before installation to make installation easy and to minimize incorrect wiring.

The SPD shall also have a protected DB-9 connector for the RS-232DTE with CTS/RTS communication bus.

The SPD shall also have a protected RJ-11 connector for the RS-485 communication bus.

The SPD shall also have a 5-position connector for connecting power and RS-485 communications to and from the T-bus.

6.0 Surge protection. The SPD shall have a two-stage power surge suppression design. The first stage shall be gas tubes followed by a second stage using inductors and TVS diodes.

The SPD shall have a three-stage communications surge suppression design. The first stage shall be gas tubes followed by a second stage using resistors and TVS diodes. The third stage shall have resistors and MOVs.

7.0 DC power protection. The SPD shall comply with the applicable standards stated in the IEC 61000-4-5 level 4 Standard for DC power lines. Test results shall be made available for the following test conditions:

- Surge voltages +_0.5kV, 1kV, 2kV, and 4kV
- Common mode (input to ground)
- Differential mode (input to input)
- 8x20µs waveform
- 2 ohm generator impedance
- Minute-long pause between surges

8.0 RS-485 protection. The SPD shall comply with the applicable standards stated in the IEC 61000-4-5 level 4 Standard for communication lines. The RS-485 communication bus shall have a clamping voltage of 8 VDC and a 12 VDC differential clamping voltage. Test results shall be made available for the following test conditions:

- Surge voltages ±0.5kV, 1kV, 2kV, and 4kV
- Common mode (input to ground)
- Differential mode (input to input)
- 8x20µs waveform
- 12 ohm generator impedance
- Minute-long pause between surges

9.0 RS-232 with CTS/RTS protection. The SPD shall comply with the applicable standards stated in the IEC 61000-4-5 level 4 Standard for communication lines. The RS-232 communication bus shall have a clamping voltage of 11 VDC. Test results shall be made available for the following test conditions:

- Surge voltages ±0.5kV, 1kV, 2kV, and 4kV
- Common mode (input to ground)
- Differential mode (input to input)
- 8x20µs waveform
- 12 ohm generator impedance
- Minute-long pause between surges

10.0 NEMA TS2-1998 testing. The SPD shall comply with the applicable standards stated in the NEMA TS2-1998 Standard. Test results shall be made available for each of the following tests:

- 300 V positive/negative pulses applied at one pulse per second at minimum and maximum DC supply voltage
- Cold temperature storage at -49°F (-45°C) for 24 hours
- High temperature storage at 185°F (85°C) for 24 hours
- Low temp, low DC supply voltage at -29.2°F (-34°C) and 10.8 VDC
- Low temp, high DC supply voltage at -29.2°F (-34°C) and 26.5 VDC
- High temp, high DC supply voltage at 165.2°F (74°C) and 26.5 VDC
- High temp, low DC supply voltage at 165.2°F (74°C) and 10.8 VDC

11.0 Testing. Each SPD shall be tested by the manufacturer before shipment.

Each SPD shall comply with all CE requirements under IEC 60950-1.

12.0 Warranty. The SPD shall be warranted to be free from material and workmanship defects for a period of one year from date of shipment.