



# **HSENS-CC**

Partial Discharge Capacitive Coupler

RUGGED ROBUST RELIABLE



High Dielectric Capacitive Coupler for Reliable PD Monitoring Rugged Monitoring's Capacitive Coupler is a highly adaptable partial discharge sensor engineered for precise PD monitoring and testing across various electrical assets, including transformers, generators, motors, and switchgear.

HSENS-CC is a compact capacitive coupler sensor engineered for accurate and efficient Partial Discharge (PD) detection and monitoring. Designed to meet the needs of modern electrical systems, this sensor is suitable for a wide range of applications, including motors, switchgear, and transformers. Built with high dielectric materials, the HSENS-CC is ideal for both temporary and permanent installations, particularly in challenging environments like busbars and terminal boxes with limited space.

Available in multiple capacitance ratings, from 1nF to 9nF, and nominal voltages up to 36kV, the HSENS-CC is adaptable to a wide range of PD monitoring systems. It is also equipped with built-in overvoltage protection and provides flexible output options (BNC/TNC connections) for seamless integration with any HF PD monitoring system, regardless of the manufacturer. With its versatile design, the HSENS-CC can be mounted either vertically or horizontally, depending on space constraints, making it highly adaptable for various industrial settings. The robust construction, compact size, and reliable performance of the HSENS-CC make it a dependable solution for ensuring electrical asset safety and operational efficiency.

### >> Benefits

- Enhanced Accuracy
- Minimal Operational Disruption
- Safe and Easy Installation
- Versatility in Installations
- Customizable for Various Applications

## >> Applications

- Generator
- Motor
- Switchgear
- Transformer and Dry-type transformer

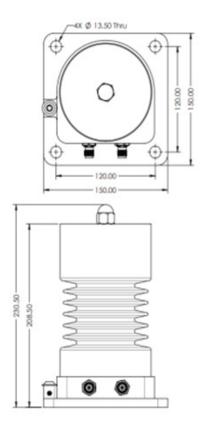
## >> Features

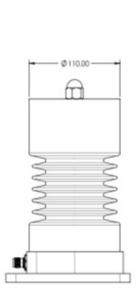
- Electrical durability and thermal resilience
- Operation free from noise and corona effects
- Designed for high-temperature, high-voltage applications
- Excellent insulation properties and mechanical strength
- Superior arc resistance properties
- Noise-free from PD

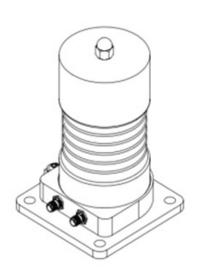
## >> Technical Specifications

| Parameters                                      | 2nF<br>24kV                             | 2nF<br>17.5kV                           | 1nF<br>17.5kV                           | 1nF<br>7.2kV                            | 1nF<br>26kV                             | 9nF<br>36kV                            | 2nF<br>12.5kV                           |
|---|---|---|---|---|---|--|---|
| Coupler Capacitance                             | 2nF                                     | 2nF                                     | 1nF                                     | 1nF                                     | 1nF                                     | 9nF                                    | 2nF                                     |
| Nominal Voltage<br>(PH Voltage of Capacitor)    | 24kV AC                                 | 178.5kV AC                              | 178.5kV AC                              | 7.2kV                                   | 26kV AC                                 | 36kV AC                                | 12.5kV                                  |
| Power Freq. Withstand<br>Voltage                | 50kV AC                                 | 38kV AC                                 | 38kV AC                                 | 20kV AC                                 | 55kV AC                                 | 65kV AC                                | 28kV AC                                 |
| Lihghtning Impedence<br>Withstand Voltage (BIL) | 125 kV                                  | 95 kV                                   | 95 kV                                   | 65 kV                                   | 175 kV                                  | 150 kV                                 | 75 kV                                   |
| Creepage<br>distance                            | 490 mm                                  | 330 mm                                  | 330 mm                                  | 135 mm                                  | 580 mm                                  | 600 mm                                 | 240 mm                                  |
| Sensitvity                                      | 1pC                                     | 1pC                                     | 1pC                                     | 1pC                                     | 1pC                                     | <2pC                                   | 1pC                                     |
| Connection                                      | Top Side M12 PD<br>Free Nut             | Top Side M10<br>bolts                  | Top Side M12 PD<br>Free Nut             |
| Material  | Epoxy Resin                             | Composite silicon<br>Grey              | Epoxy Resin                             |
| Tan Delta                                       | <0.2%                                   | <0.2%                                   | <0.2%                                   | <0.2%                                   | <0.2%                                   | <0.2%                                  | <0.2%                                   |
| PD Value @25kV, 50 Hz                           | <5pc at 26kV                            | <5pc at 21kV                            | <5pc at 21kV                            | <5pc at 9.0kV                           | <5pc at 30kV                            | <5pc at 30kV                           | <5pc at 13kV                            |
| Dimensions                                      | Height = 253 mm                         | Height = 175 mm                         | Height = 175 mm                         | Height = 95 mm                          | Height = 260 mm                         | Height = 342 mm                        | Height = 160 mm                         |
|   | Bottom<br>diameter = 190mm              | Bottom<br>diameter = 100mm              | Bottom<br>diameter = 100mm              | Bottom<br>diameter = 100mm              | Bottom<br>diameter = 190mm              | Bottom<br>diameter = 149mm             | Bottom<br>diameter = 100mm              |
|   | Top<br>diameter = 155mm                 | Top<br>diameter = 100mm                 | Top<br>diameter = 100mm                 | Top<br>diameter = 95mm                  | Top<br>diameter = 155mm                 | Top<br>diameter = 191mm                | Top<br>diameter = 95mm                  |
| Weight  | 8.5 Kg                                  | 3.5 Kg                                  | 3.5 Kg                                  | <2.1 Kg                                 | >4.2 Kg                                 | >4.2 Kg                                | <2.1 Kg                                 |
| Capacitance                                     | 2nF ±10%                                | 2nF ±10%                                | 1nF ±10%                                | 1nF ±10%                                | 1nF ±10%                                | 9nF ±10%                               | 2nF ±10%                                |
| Temperature Range                               | [-20,60]°C                              | [-20,85]°C                              | [-20,85]°C                              | [-20,85]°C                              | [-20,60]°C                              | [0 + 85]°C                             | [-20,85]°C                              |
| Operating Humidity                              | 95%<br>humidity<br>at 50°C              | 95%<br>humidity<br>at 50°C             | 95%<br>humidity<br>at 50°C              |
| Signal Cable                                    | RG223 or RG 58<br>50ohm                 | RG223 or RG 58<br>50ohm                | RG223 or RG 58<br>50ohm                 |
| PD Bandwidth                                    | 20KHz-30MHz                             | 20KHz-30MHz                             | 20KHz-30MHz                             | 20KHz-30MHz                             | 20KHz-30MHz                             | 100KHz-30MHz                           | 20KHz-30MHz                             |
| Sync Bandwidth                                  | 1 Hz-1KHz (0,1 Hz<br>Variant available) | 10Hz-1000Hz                            | 1 Hz-1KHz (0,1 Hz<br>Variant available) |
| PD Output Conncetors                            | TNC Female                              | BNC Female                             | TNC Female                              |
| Sync. Output<br>Connectors                      | TNC Female                              | TNC Female                             | TNC Female                              |
| Internal Voltage<br>Protection                  | >100 V Peak<br>across the<br>Impedance  | >100 V Peak<br>across the<br>Impedance | >100 V Peak<br>across the<br>Impedance  |
| Quadrpole/ Measuring<br>Impedance               | Fixed at bottom of the couplers         | Fixed at bottom of the couplers        | Fixed at bottom of the couplers         |

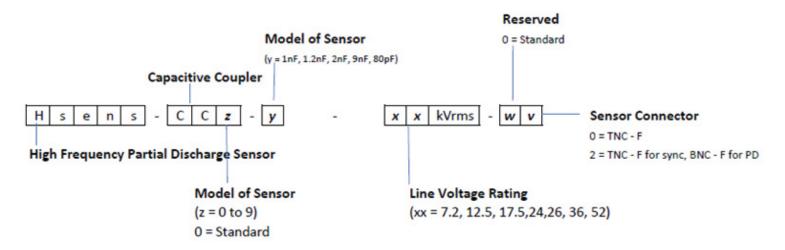
## >> Product Drawing







## >> Ordering Code



#### **CERTIFICATIONS**















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