



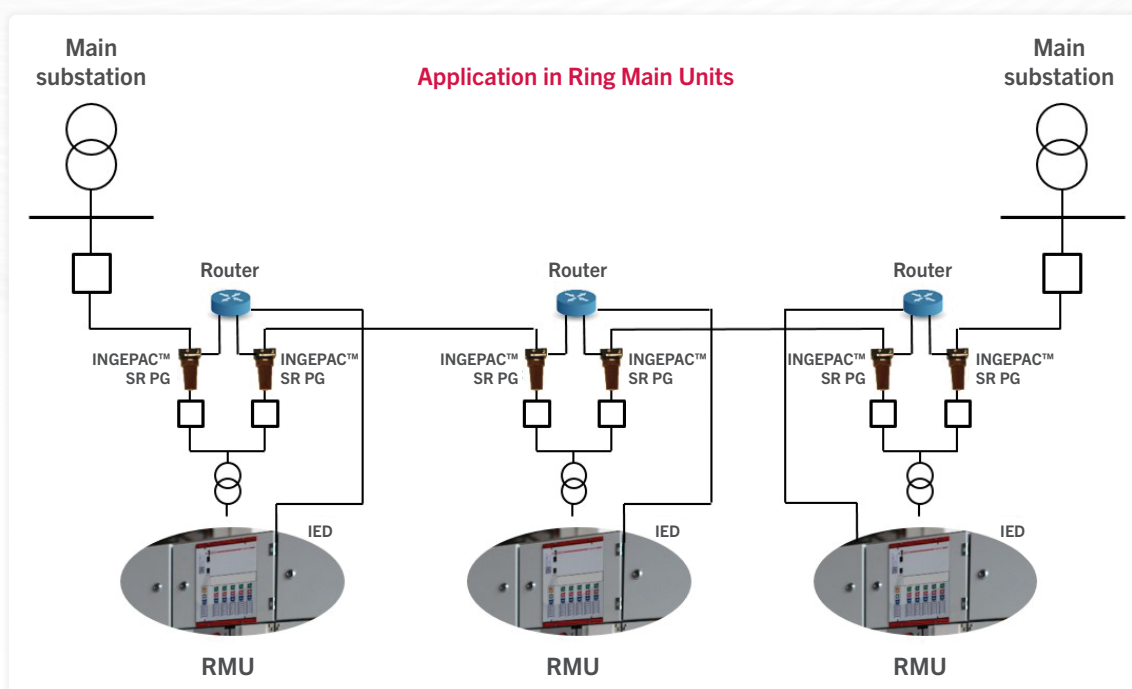
PLC coupler for gas-insulated switchgear

INGEPAC™ SR PG is a device that allows PLC communications coupling in gas-insulated switchgear cubicles. There is a version for up to 36 kV cubicles and another one with voltage sensor for up to 24 kV cubicles.

INGEPAC™ SR PG coupler is suitable for broadband communications, being able to transmit and receive in the **1-32 MHz** range. INGEpac™ SR PG complies with the **IEC 61869-1:2009** and **IEC 61869-3:2011** standards. Every unit is individually tested to ensure its accuracy.

Applications

- Communication between medium voltage stations
- Voltage signal for metering, protection, fault passage detection and power quality



TYPE TESTS

Accuracy in module and argument	$\pm 1\% / \pm 1^\circ$ at -10°C , $+20^\circ\text{C}$ and $+60^\circ\text{C}$ at 50 Hz $\pm 1,5\% / \pm 1,5^\circ$ at -10°C , $+20^\circ\text{C}$ and $+60^\circ\text{C}$ at 60 Hz
Industrial frequency withstand voltage	50 kV
Lightning impulse withstand voltage	125 kV
Partial discharges (UNE-EN 61869-1)	< 10 pC for 31.2 kV @ 10 s < 10 pC for 15.3 kV @ 1 h
Secondary side overvoltage protection	15 A @ 1 s withstand current
Dielectric strength (galvanic isolated communication stage)	5 kV @ 1 m / 50 Hz
Insertion losses	< 4 dB between 2 and 30 MHz < 6 dB between 1 and 2 MHz
Drain coil current capability at industrial frequency	Permanent current: 1 Arms / 50 Hz / 66 h Short time current: 50 Arms / 50 Hz / 0.2 s
Free fall (ETSI EN 300 019-2-2 / IEC 60068-2-31)	Public Transportation Environmental Class 2.3 Severity: Mass: 20 Kg Height: 1.2 m

ROUTINE TESTS

Accuracy in module and argument	$\pm 1\% / \pm 1^\circ$ at ambient temperature ($20^\circ\text{C} \pm 5^\circ\text{C}$) and 50 Hz
Partial discharges (UNE-EN 61869-1)	< 50 pC for 1.2 · 24 kV < 20 pC for 1.2 · 24 kV/ $\sqrt{3}$
Industrial frequency withstand voltage	50 kV
Dielectric strength (galvanic isolated communication stage)	5 kV @ 1 m
Insertion losses	< 4 dB between 2 and 30 MHz < 7 dB between 1 and 2 MHz

SENSOR FEATURES

Accuracy in module: $\pm 1\%$ at 50 Hz / $\pm 1.5\%$ at 60 Hz, for the defined temperature range
Accuracy in argument: $\pm 1^\circ$ at 50 Hz / $\pm 1.5^\circ$ at 60 Hz, for the defined temperature range
Temperature range: -10°C to 60°C
Transformation ratio: 10,000:1
Primary rated voltage: 11 kV, 13.2 kV, 15 kV, 20 kV
Power frequency: 50/60 Hz
Isolation voltage: 24 kV
Surge protection: gas discharger
Burden: < 3 W

COUPLER FEATURES

Frequency range: 1-32 MHz
Isolation voltage: 24 or 36 kV, depending on the model
Coupling capacity: 470 pF
Power frequency: 50/60 Hz
Temperature range: -10°C to 60°C
Burden: < 10 mW (P), < 45 VA (S)

MECHANICAL FEATURES

Protection level at primary side: IP65
Primary side material: resin
Low voltage connector: BNC type
Earthing terminal: stud bolt and M6 screw
Connection format with medium voltage: <ul style="list-style-type: none"> Compatible with T terminal and DIN C type connectable bushing M16 primary terminal connection and length less than 31 mm
Total length: 147 ± 2 mm
Weight: 900 ± 20 g
Screw material: A2 steel, hardness 70

