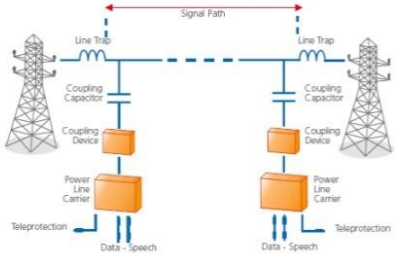
SCA

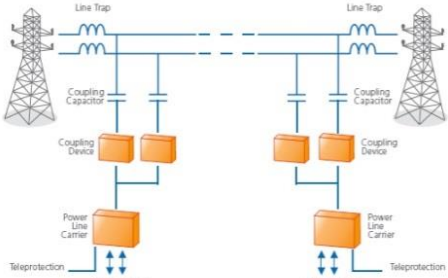
UNIVERSAL COUPLING DEVICE

The SCA/SGA universal coupling device allows the connection between Power Line
Carrier (PLC) equipment and the power line. It is one of the main equipment for the PLC systems, offering very important advantages:

- **efficient** carrier frequency signal **transmission** between the PLC equipment and the power line
- **highest protection** of the low voltage equipment from the power frequency voltage and transient overvoltage
- easy to program and to install
- maximum operating safety
- 500 W PEP Power rating
- IEC-481 compliant
- long life for outdoor installation
- phase-to-ground and phase-to-phase coupling



Phase-to-ground coupling



Phase-to-phase coupling

BENEFITS

COMPACT LAY-OUT

Upper part: impedance matching/insulation transformer, tuning coil, HF hybrid transformer (optional), secondary surge arrester, secondary terminal strips.
Lower part: primary terminal, grounding switch, primary surge arrester.

WEATHER-PROOF PROTECTION BOX

A fiberglass reinforced polyester box guarantees long life for outdoor installation, even in damp and polluted environments.

GROUNDING SWITCH

It can be operated by an external side handle ensuring straight grounding of the primary terminal. The interlocking with the door allows opening the box only after the actual grounding of the link, in order to provide safe operations.

PRIMARY SURGE ARRESTER (COMPLIANT WITH IEC 481)

Non linear type with 660 Vrms rated voltage
Max. 100% impulse sparkover voltage (1.2/50 µs) : 3300 V peak
Rated discharge current (8/20 µs) : 5KA peak.

PERFORMANCES

IMPEDANCE AND INSULATING TRANSFORMER WITH TUNING COIL

Band pass filter with the coupling capacitor: the filter characteristic can be simply tuned by screw-jumpers
Impedance matching between the PLC terminal and the power line
Galvanic insulation between the primary terminal and coax cable to PLC equipment
Drainage coil function.

HF HYBRID TRANSFORMER (OPTIONAL)

Phase-to-phase or inter-system coupling arrangements
Drop/insert
Paralleling of two PLC equipment with short frequency gap.

SECONDARY SURGE ARRESTER

Gas tube arrester with:
nominal DC breakdown voltage: 350 V
impulse discharge current (8/20 µs): 20 KA
AC discharge current (50 Hz): 20 A (1 sec.)

TECHNICAL FEATURES

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Coupling type	Phase-to-ground/Phase-to-phase
Frequency range	40 to 500 KHz in programmable subbands
Coupling capacitance	2,000 to 10,000 pF
Nominal impedance (power line side)	200, 300/400 Ω unbalanced
Nominal impedance (PLC equipment side)	75/150 Ω bal./unbalanced
Composed attenuation within subbands	< 2dB
Return loss within subbands	> 12dB
HF power	500 W (P.E.P.)
Intermodulation	better than 80 dB at max. power
50/60 Hz current in the primary transformer	1A continuous
50/60 Hz overcurrent	50 A for 1s
Primary impedance at 50/60 Hz	< 8 Ω
Primary test voltage (1.2/50 µs wave shape)	10 KVp
Primary test voltage to secondary and to ground (at 50/60 Hz)	5 KVrms
Secondary test voltage to primary and to ground (at 50/60 Hz)	5 KVrms
Operating environmental conditions	-25 °C to +70°C
Resistance to external agents	sunrays, rain, hail, snow, saline atmosphere, ice, chemicals etc.
Dimensions (lxhxd)	355x420x320mm.
Weight	12 Kg.

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