Sensors based on advanced measurement principles have been developed as alternative solution to conventional instrument transformers in order to achieve significant reduction in dimensions, increase of safety and to provide greater rating standardization with a wider functionality range. Due to their compact sizes and optimized designs sensors represent ideal solutions for new installations as well as retrofit purposes of existing switchgear. Sensors provide state of the art solution for current and voltage measurement also in applications where is very difficult to use conventional instrument transformers. ABB offers wide range of sensor products suitable for use in secondary Gas-Insulated Switchgear (Ring Main Units).

Indoor Current Sensor KECA 80 C85
The current sensor type KECA 80 C85 is intended for current measurement in gas insulated medium voltage switchgear. The design of the current sensor has been optimized to be easily assembled on the shielded cable connectors and therefore makes the sensor suitable for retrofit purposes.

Ratings:
- Rated primary current of application: up to 2500 A
- Rated primary current: 80 A
- Cable lengths: 2.2; 3.4; 3.6 m
- Inner diameter: 85 mm

Indoor Current Sensor KECA 80 D85 (split core type)
The current sensor type KECA 80 D85 is intended for current measurement in gas insulated medium voltage switchgear. The current sensor is the split core type equipped with a clamping system which provides easy and fast installation and therefore makes the sensor suitable for retrofit purposes.

Ratings:
- Rated primary current of application: up to 4000 A
- Rated primary current: 80 A
- Cable length: 5 m
- Inner diameter: up to 85 mm

Indoor Voltage Sensors KEVA C
The voltage sensor type KEVA C is intended for voltage measurement in gas insulated medium voltage switchgear. The voltage sensor KEVA C has been designed as easy replacement of originally used insulating plugs in the cable connectors. Voltage sensors KEVA C are compatible with cable connectors from ABB Kabeldon, Nexans (Euromold), Raychem and NKT.

Ratings:
- Rated primary voltage of application: up to 24 kV
- Highest voltage for equipment: up to 24 kV
- Rated primary voltage: 22/\sqrt{3} kV
- Cable lengths: 2.2 m
Sensor assembly
Current sensor KECA 80 C85 shall be installed on shielded head of cable connector using clamping system.
Current sensor KECA 80 D85 shall be installed on shielded cable using clamping system which allows assembly on different diameters of MV cable. Voltage sensors KEVA C are assembled as easy replacement of originally used insulating plugs in cable connectors.

ABB sensors are compatible with wide range of ABB IEDs. Examples of suitable Fault Passage Indicators and Protection relays for secondary Gas-Insulated Switchgear: RIO600, REF 601, AEG 601, REF 615, REM 615, RED 615, REC 615 and REF 620, REM 620.

ABB sensors are also compatible with a-eberle EOR-3D Combined Earth Fault and Short Circuit Indicator.

Standard package
Standard package for 3-phase application where current and voltage measurements are required consists of:
- 3 pcs of current sensors KECA 80 C85 or KECA 80 D85
- 3 pcs of voltage sensors KEVA C
- 3 pcs of connector adapter AR4 (ordering code for connector adapter AR4 is 1VL5300752R0101)

Tab. 1. Sensor overview. Note: For use in alternative cable connectors please contact ABB.