TEMPERATURE AND OXYGEN MEASUREMENTS IN MOLTEN METALS

New multifunction digital equipment SIDERTOP-III

SIDERMES Measuring Equipments series is enhanced by a new highly sophisticated instrument: SIDERTOP-III can measure and analyze all parameters required in steel production process.

CONSTRUCTION FEATURES
All electronics are enclosed inside a rugged metal case. It has been designed in a 19" rack housing to be installed inside the control room. In the four digital displays, digits dimensions and brightness (20 mm high efficiency red LED) allow the Operator to read the displayed values from far, even under difficult light conditions. Three lamps are located on the front panel, indicating to the Operator the state of the measurement and when it has been completed. Measurement data are saved on flash memory for elaboration.
Technical Characteristics:

- **Measuring principle:** Microprocessor-based measured signal analysis, through digital differentiation and mean value linearized determination.

- **Measuring range**
  - **Temperature:** 500°C±1800°C
    - Type S (Pt-10%Rh / Pt)
    - Type R (Pt-13%Rh / Pt)
    - Type B (Pt-6%Rh / Pt-30%Rh)
    - 500°C±1400°C
    - Type K (Ni-Cr / Ni-Al)
  - **Oxygen:** 1±1999 ppmO₂ / -300±300 mV
    - Calculated Carbon (>150 ppmO₂)
    - Calculated Aluminium (< 20 ppmO₂)

- **Calibration:**
  - ITS-90
  - Also available IEC 584-1 1977 (IPTS-68)
  - IEC 584-2 1982, Class 1-2

- **Display:**
  - 4 digits, red LED, 7 segments
  - Touch screen 5.7”.

- **Digits height:**
  - 20 mm

- **Reference T:**
  - 0°C with cold junction compensation

- **Resolution:**
  - 1°C

- **Accuracy:**
  - ±0.1% of measuring range

- **Measurement sequence:** "ready", "measuring", "end" with traffic-light on the front panel.

- **Outputs:**
  - (a) For data transmission:
    - RS-232, RS-485 MODBUS slave,
    - (RS-485 MODBUS master)
  - (b) For remote display (high digits display) in current loop 20 mA, ASCII code.

- **On demand:**
  - PROFIBUS DP, ETHERNET, 4-20mA analogic, BCD, ...

- **Power supply:**
  - 120±230VAC ~ 50-60Hz. Max 10W per channel.

NEW FEATURES

- 2 full independent separated complete measurement channels. Channels work simultaneously.
- Internal flash memory for data savings (up to 500 measurements).
- Total digital calibration.
- Optional outputs for PROFIBUS DP, ETHERNET and other outputs with internal card.
- 20 mm red LED digits.
- Colours display touch screen 5.7” for measurement graph showing, to access saved data and for setting instrument parameters.
- USB slot on instrument front for data downloading to flash memory card.