# E.S.A.M.

## MODULAR SERIES - 6 DIN modules

| E2002 | E2001 | E2001SE |
|-------|-------|---------|

## PANEL MOUNTING SERIES - 96 x 96

| E92002 | E92001 | E92001SE |
|--------|--------|----------|

## PANEL MOUNTING 72 x 144    E742002

**General features:**

The **E …** series network analyzers designed and developed wholly by **ESAM** are built to comply with all the modern requirements of measure and control of electrical parameters in a single-phase and three-phase networks.

The adoption of the latest generation's microprocessors, of a new measuring circuit with auto-range, the careful choice of every component ( **UL** recognized printed circuits ) and the calibration with **EAL.SIT** certificated devices, warrant the highest precision and reliability in every condition of use.

The use of the analyzer **E2002** allows to obtain several advantages:

- multirange (8 for voltage, 8 for current)
- simultaneous acquisition of: **RMS** voltages, **RMS** currents, frequency, $\cos\varphi$, powers, energies, THD…
- simplification of wire assembly (a single meter for all the variables to be measured
- in field configuration of CT and VT ratios for direct values reading (automatic selection engineering units)
- a single device for all type of connection: single-phase, three-phase with **2 CT** (ARON), three-phase with **3 CT**
- automatic programmable page change
- averaging with selectable response time
- measure of active and reactive energy with 2 programmable pulse outputs for remote acquisition
- 2 user configurable alarms. Nearly all measured/calculated values can be selected as alarm source (see table)
- **Insulated** RS485 serial interface for connection to PC/PLC
- 3 serial communication protocols: ESAM, MODBUS RTU, N2BUS (Metasys - Johnson Controls)
- scratch-resistant membrane touch switches with secret access code

| MEASURED AND CALCULATED VARIABLES | | E2002 | E2001 | E2001SE | E92002 | E92001 | E92001SE | E742002 |
|---|---|:-:|:-:|:-:|:-:|:-:|:-:|:-:|
| Phase Voltages | V1N  V2N  V3N | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Linked Voltages | V12  V23  V31 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Linked average Voltage | Vtm | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Currents | I1  I2  I3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Average Current | Itm | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Active Powers | P1  P2  P3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Total Active Power | Ptot | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Reactive Powers | Q1  Q2  Q3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Total Reactive Power | Qtot | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Apparent Powers | S1  S2  S3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Total Apparent Power | Stot | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Phase Cosφ | PF1  PF2  PF3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Total Cosφ | PF | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Frequency | Frequency | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Positive and negative Active Energy | Wh(+)   Wh(-) | ✓ | ✓ |  | ✓ | ✓ |  | ✓ |
| Positive and negative React. Energy | VARh(+)   VARh(-) | ✓ | ✓ |  | ✓ | ✓ |  | ✓ |
| Average positive powers (e.g. 15 ') | Pm(+)  Pm(-)  Qm(+)  Qm(-) | ✓ |  |  | ✓ |  |  | ✓ |
| Peak positive active powers (e.g. 15') | Pm(+)  Pm(-)  Qm(+)  Qm(-) | ✓ |  |  | ✓ |  |  | ✓ |
| Memorization of 4 peaks | Peak 1…2 …3…4 | ✓ |  |  | ✓ |  |  | ✓ |
| Memorization of 2 peaks | Peak 1…2 |  | ✓ | ✓ |  | ✓ | ✓ |  |
| Hour-meter | Hour Meter | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Temperature (internal probe) | Temperature | ✓ |  |  | ✓ |  |  | ✓ |
| Phase sequence | V. Phase Sequence | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Total harmonic distortion (%) | Thd V1-V2-V3   Thd I1-I2-I3 | ✓ |  |  | ✓ |  |  | ✓ |
| RS485 serial (3 protocols) | MODBUS RTU, ESAM, N2BUS | ✓ |  |  | ✓ |  |  | ✓ |
| Alarm outputs / Pulses outputs | | ✓ |  |  | ✓ |  |  | ✓ |

| E9200 … |  |
|---|---|
| E200 … |  |
| E742002 |  |
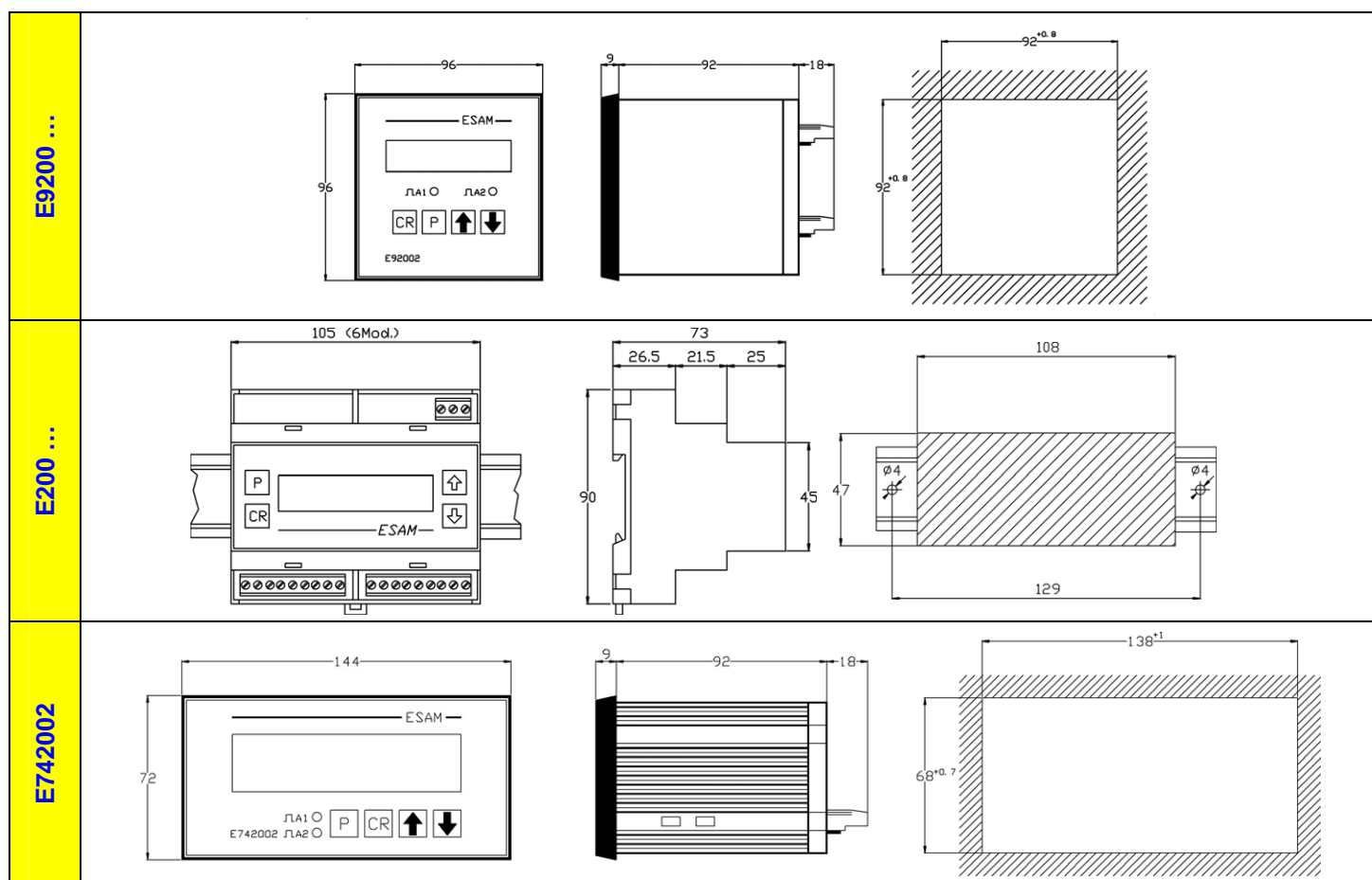
For the peculiar features of every model see the respective specifications.