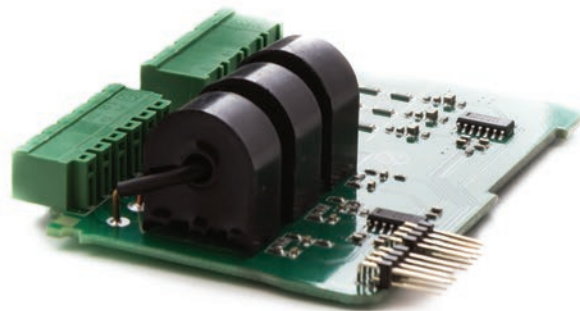




Ecras Electronic Multimeter



- Modular design
- No connector cables
- No fixing screws
- State of the art technology



**Easy** mounting on panels  
connection to system

## Instantaneous Measurement

- Each phase VL-N and its averages.
- Each phase VL-L and its averages.
- Each phase I and its sum.
- Neutral Current
- Each phase active power(P) and its sum.
- Each phase reactive power(Q) and its sum.
- Each phase apparent power(S) and its sum.
- Each phase power factor(PF) and its average.
- Frequency

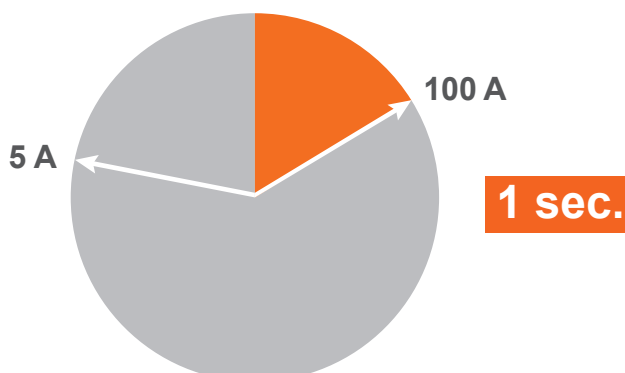


## Data Logging

- Ecras measures 30 different energy parameters.
- Ecras logs min and max values of the measured parameters
- Ecras logs demand values for I, Q, P and S.

## Alarms

- Low limit, High Limit, Hysteresis and Delay Values can be set from the Alarm Menu for the below parameters:  
VL-N, V L-L, I, IN, PF and F
- Phase sequence
- Absence of Voltage and Current  
Can be detected by Ecras and indicates each alarm by blinking leds on its front panel.
- User can activate two output relays by assigning them individually to any alarm.



## Surge Withstand 100 A/1 sec

Ecras current inputs can withstand surges upto 100 A for 1 second.

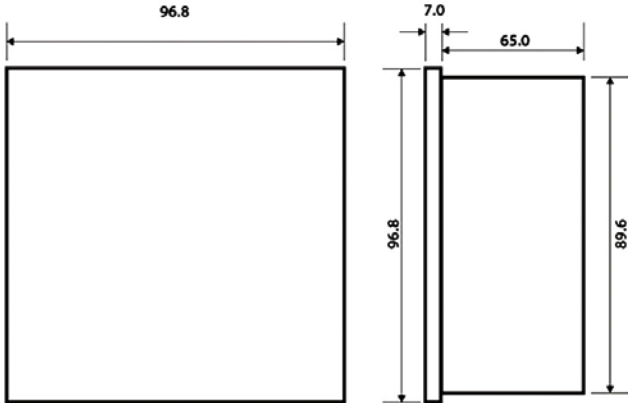
In case of a current rise in the secondary winding of the current transformer, current inputs of the multimeter should withstand to these peak values. If not, current transformer may explode due to open circuit in the secondary winding.

This may result with shutdown of the measurement system.

# Ecras Product Selection Chart

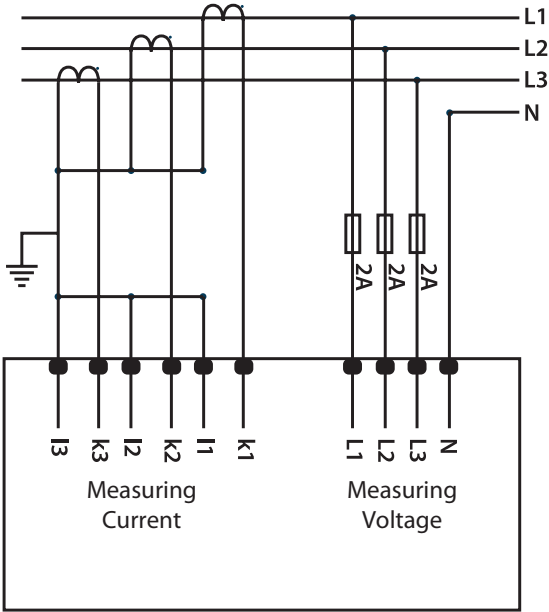
|  | 606200 ECRAS                       | 606201 ECRAS ALARM                 |
|--|------------------------------------|------------------------------------|
| <b>General</b>   |                                    |                                    |
| Seven Segment Display 4 buttons  | *                                  | *                                  |
| Password Protection  | *                                  | *                                  |
| Supply Voltage AC  | 85-300 V AC                        | 85-300 V AC                        |
| Supply Voltage DC  | 85-300 V DC                        | 85-300 V DC                        |
| Current Transformer Ratio  | 1-5000 A                           | 1-5000 A                           |
| Voltage Transformer Ratio  | 1-5000 A                           | 1-5000 A                           |
| Connection Type  | 3P4W, 3P3W                         | 3P4W, 3P3W                         |
| Measurement in Quadrants   | 4                                  | 4                                  |
| Networks   | TT, TN, IT                         | TT, TN, IT                         |
| Accuracy Class Voltage   | 0.2                                | 0.2                                |
| Accuracy Class Current   | 0.2                                | 0.2                                |
| Accuracy Class Active Energy   | 0.5                                | 0.5                                |
| Number of Measurement in a period  | 512                                | 512                                |
| Measurement Accuracy   | + - 1 digit                        | + - 1 digit                        |
| Power Consumption  | < 6VA                              | < 6VA                              |
| <b>Power Quality Measurements</b>  |                                    |                                    |
| Harmonics / current and voltage  |                                    |                                    |
| THD-Voltage in %   | *                                  | *                                  |
| THD-Current in %   | *                                  | *                                  |
| Phasor Diagram   | *                                  | *                                  |
| <b>Data Logging</b>  |                                    |                                    |
| Average, Minimum, Maximum Values   | *                                  | *                                  |
| Alarms   | *                                  | *                                  |
| Time Stamp   | *                                  | *                                  |
| Demand   | *                                  | *                                  |
| <b>Voltage Measurement Input</b>   |                                    |                                    |
| Overvoltage Category   | 300 V Cat II                       | 300 V Cat II                       |
| Measured Range L-N   | 10-300 Vrms                        | 10-300 Vrms                        |
| Measured Range L-L   | 2-500 Vrms                         | 2-500 Vrms                         |
| Measured Frequency Range   | 45-65 Hz                           | 45-65 Hz                           |
| Power Consumption  | <0.1 VA                            | <0.1 VA                            |
| Sampling Freq.between 45-65 Hz   | 25.6 kHz                           | 25.6 kHz                           |
| <b>Current Measurement Input</b>   |                                    |                                    |
| Rated Current  | 6A                                 | 6A                                 |
| Measurement Range  | 0.01-5.5A                          | 0.01-5.5A                          |
| Overvoltage Category   | 300 V Cat II                       | 300 V Cat II                       |
| Measurement Surge Voltage  | 2 kV                               | 2 kV                               |
| Power Consumption  | <0.2 VA                            | <0.2 VA                            |
| Peak current for 1 sec   | 100 A                              | 100 A                              |
| Sampling Freq.between 45-65 Hz   | 25.6 kHz                           | 25.6 kHz                           |
| <b>Input Outputs</b>   |                                    |                                    |
| Alarm Relay Outputs  | 0                                  | 2                                  |
| Max. Switching Current   |                                    | 10 A                               |
| Max. Switching Voltage   |                                    | 250 VAC                            |
| Max. Switching Power   |                                    | 1250 VA                            |
| <b>Mechanical Properties</b>   |                                    |                                    |
| Weight   | 0,291 kg                           | 0,292 kg                           |
| Protection Class   | IP 40 front, IP 20 rear            | IP 40 front, IP 20 rear            |
| Assembly Type  | Panel Mount                        | Panel Mount                        |
| Dimensions   | W96xH96xD72                        | W96xH96xD72                        |
| <b>• Cable Cross Sections</b>  |                                    |                                    |
| Supply Voltage, Current, Relay Outputs   |                                    |                                    |
| Stranded:  | 2,5 mm <sup>2</sup> - 14AWG        | 2,5 mm <sup>2</sup> - 14AWG        |
| Solid:   | 4mm <sup>2</sup> - 12 AWG          | 4mm <sup>2</sup> - 12 AWG          |
| Digital I/O, RS 485  | 2x1.5 mm <sup>2</sup> - 2x16 AWG   | 2x1.5 mm <sup>2</sup> - 2x16 AWG   |
| Stranded:  | 1,5 mm <sup>2</sup> - 16AWG        | 1,5 mm <sup>2</sup> - 16AWG        |
| Solid:   | 1.5 mm <sup>2</sup> - 16 AWG       | 1.5 mm <sup>2</sup> - 16 AWG       |
|  | 2x0.75 mm <sup>2</sup> - 2x18 AWG  | 2x0.75 mm <sup>2</sup> - 2x18 AWG  |
| <b>Ambient Conditions</b>  |                                    |                                    |
| Operating Temperature  | -20 C .... +60 C..                 | -20 C .... +60 C..                 |
| Storage Temperature  | -30 C .... +80 C..                 | -30 C .... +80 C..                 |
| Relative Humidity (no condensation)  | 95%                                | 95%                                |
| <b>Communication and Others</b>  |                                    |                                    |
| Modbus RTU   | *                                  | *                                  |
| Battery  | *                                  | *                                  |
| Real Time Clock  | *                                  | *                                  |
| <b>Standarts in Compliance</b>   |                                    |                                    |
| Safety requirements for electrical equipment for measurement, control, and laboratory use                                      | 300 VAC CAT II acc. to IEC 61010-1 | 300 VAC CAT II acc. to IEC 61010-1 |
| EMC - Electrostatic discharge immunity test  | EN 61000-4-2                       | EN 61000-4-2                       |
| EMC - Radiated, radio-frequency, electromagnetic field immunity test   | EN 61000-4-3                       | EN 61000-4-3                       |
| EMC - Electrical fast transient/burst immunity test  | EN 61000-4-4                       | EN 61000-4-4                       |
| EMC - Surge immunity test  | EN 61000-4-5                       | EN 61000-4-5                       |
| EMC - Immunity to conducted disturbances, induced by radio-frequency fields  | EN 61000-4-6                       | EN 61000-4-6                       |
| EMC - Power frequency magnetic field immunity test   | EN 61000-4-8                       | EN 61000-4-8                       |
| EMC - Voltage dips, short interruptions and voltage variations immunity tests  | EN 61000-4-11                      | EN 61000-4-11                      |
| Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement | EN 55011/A1:2010                   | EN 55011/A1:2010                   |

Dimensions (mm)



Wiring Diagrams

Star Connection (with neutral)



Delta Connection (no neutral)

