

# Built-In Terminal ET 2120



with 21.5" TFT color display

The ET 2120 is an intelligent panel for visualizing, operating and monitoring automated processes. Process diagnostics is therewith simplified. A projective capacitive touch screen serves as the input medium for process data and parameters. The output is shown on a 21.5" TFT color display. With the LASAL visualization tool, graphics can be created on the PC, then stored and displayed on the handheld operating panel. Additionally, an integrated UPS ensures continued operation during short-term power interruptions.

## Performance Data

|                                            |                                                      |
|--------------------------------------------|------------------------------------------------------|
| Processor                                  | Intel® Celeron J6412                                 |
| Processor cores                            | 4                                                    |
| Processor clock                            | 4x 2 GHz (2.6 GHz Burst Mode)                        |
| Internal program and data memory (RAM)     | 4-Gbyte (DDR4)                                       |
| Internal remnant data memory               | 512 kByte                                            |
| Internal storage device                    | 128-Gbyte M.2 SSD (1:1 formatted ~3k P/E cycles)     |
| Optional memory expansion                  | no                                                   |
| Graphic                                    | Intel® UHD Graphic Gen10                             |
| Interfaces                                 | 2x Ethernet (10/100/1000)<br>4x USB 3.0 Host Type A  |
| Internal interface connections and devices | 1x internal UPS (approx. 2 s buffer time)            |
| Operating components                       | no                                                   |
| Signal generator                           | no                                                   |
| Display Resolution                         | 21.5" TFT color display<br>FullHD 1920 x 1080 pixels |
| Operating field                            | Touch screen (multi-touch, projective capacitive)    |

|                 |                        |
|-----------------|------------------------|
| Status LEDs     | yes (1x red)           |
| Real-time clock | yes (battery buffered) |
| Cooling         | passive                |

## Electrical Requirements

|                                                    |                                                       |                                                    |
|----------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| Supply voltage                                     | +24 V DC ±20 % (SELV/PELV)<br>UL: NEC Class 2         |                                                    |
| Protection class                                   | III                                                   |                                                    |
| Current consumption of power supply (+24 V)        | typically 1 A<br>(with no external devices connected) | maximum 1.6 A<br>(with external devices connected) |
| Inrush current without currentlimiting supply      | 5.4 A for 144 us                                      |                                                    |
| Inrush current with 24 V/10 A fixed voltage supply | 2.12 A for 4.7 s                                      |                                                    |

## Terminal

|            |                                                                        |
|------------|------------------------------------------------------------------------|
| Dimensions | 532.1 x 323.6 x 65.8 mm (W x H x D)                                    |
| Material   | Housing: natural aluminum<br>Color: black<br>Front: glass black 2.7 mm |
| Weight     | 5.85 kg                                                                |

## Display

|                |                                                                                                                                                 |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Type           | 21.5" TFT color display                                                                                                                         |
| Resolution     | FullHD 1920 x 1080 pixels                                                                                                                       |
| Color depth    | 24-Bit RGB (6-Bit Hi-FRC)                                                                                                                       |
| LCD mode       | normally black                                                                                                                                  |
| LCD Polarizer  | transmissive                                                                                                                                    |
| Pixel size     | 0.24825 x 0.24825 mm                                                                                                                            |
| Active range   | 476.64 x 268.11 mm                                                                                                                              |
| Backlighting   | LED                                                                                                                                             |
| Contrast ratio | typically 1000:1                                                                                                                                |
| Brightness     | typically 350 cd/m²                                                                                                                             |
| Angle CR ≥ 10  | left, right, up, bottom typically 89°                                                                                                           |
| Life span      | By compliance with the ambient conditions, the brightness of the display sinks after 30.000 operating hours to 50 % of the original brightness. |

| Control Unit                          |                                                   |  |
|---------------------------------------|---------------------------------------------------|--|
| Operating field                       | Touch screen (multi-touch, projective capacitive) |  |
| Maximum number of fingers             | 10                                                |  |
| The operation with thin gloves        | yes                                               |  |
| SIGMATEK Touch pen (passive)          | yes                                               |  |
| Handwriting recognition               | no                                                |  |
| Ball of the thumb recognition         | yes                                               |  |
| Water spray recognition <sup>1)</sup> | yes                                               |  |
| Water detection <sup>2)</sup>         | no                                                |  |

| Input |                           |  |
|-------|---------------------------|--|
| Input | Multi-touch screen (PCAP) |  |

| Environmental Conditions              |                                                                                                                                            |                                                                                    |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Storage temperature                   | -10 ... +70 °C                                                                                                                             |                                                                                    |
| Environmental temperature             | 0 ... +50 °C                                                                                                                               |                                                                                    |
| Humidity                              | 10-95 %, non-condensing                                                                                                                    |                                                                                    |
| Installation altitude above sea level | 0-2000 m without derating<br>> 2000 m up to a maximum of 5000 m with derating of the maximum environmental temperature by 0.5 °C per 100 m |                                                                                    |
| Operating conditions                  | pollution degree 2                                                                                                                         |                                                                                    |
| Noise emissions                       | ≤ 70 dB                                                                                                                                    |                                                                                    |
| EMC resistance                        | EN 61000-6-2 (industrial area)                                                                                                             |                                                                                    |
| EMC noise generation                  | EN 61000-6-4 (industrial area)                                                                                                             |                                                                                    |
| Vibration resistance                  | EN 60068-2-6                                                                                                                               | 3.5 mm from 5-8.4 Hz<br>1 g from 8.4-150 Hz                                        |
| Shock resistance                      | EN 60068-2-27                                                                                                                              | 15 g (147.15 m/s²)                                                                 |
| Protection type                       | EN 60529                                                                                                                                   | Front: IP65<br>Rear: IP20 (without interface cover)<br>IP54 (with interface cover) |

| Article Number and Miscellaneous |                   |                          |
|----------------------------------|-------------------|--------------------------|
| Article number                   | 01-235-2120       |                          |
| Operating system                 | Salamander        |                          |
| Default IP address               | 10.10.150.1       |                          |
| Printed circuit board coating    | no                |                          |
| Approvals                        | CE                | yes                      |
|                                  | UL                | designed according to UL |
|                                  | Functional Safety | no                       |
|                                  | UKCA              | no                       |

# Notes

