Swing Arm Mount HMI
TP 2120

with 21.5" TFT color display

The TP 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. The pendant arm mounting enables flexible and space-saving positioning of the panel.

Performance Data

Processor	Intel® Celeron J6412
Processor cores	4
Processor clock	4x 2 GHz (2.6 GHz Burst Mode) Internal program
Internal program and data memory (RAM)	min. 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) 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 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) UL: NEC Class 2	
Protection class	III	
Current consumption of power supply (+24 V)	typically 1 A (with no external devices connected)	maximum 1.6 A (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 Color: black 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[1)]	yes	
Water detection[2)]	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 > 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 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 Rear: IP20 (without interface cover) IP54 (with interface cover)

Article Number and Miscellaneous

Article number	01-237-2120	
Operating system	Salamander	
Default IP address	10.10.150.1	
Printed circuit board coating	no	
Approvals	CE	yes
	UL	cULus (E247993)
	Functional Safety	no
	UKCA	no

Notes