

Training System Extension HMI

TSY 031



The TSY 031 training system is an application assembly that is used for training. The TSY 031 is the extension for the basic application TSY 021. The application consists of a 7 inch touch control panel, which is integrated in a device rack. The Ethernet interface serves for the data exchange between the TSY 031 and the basic module TSY 021.

Additionally the application has a low voltage connection cable for supplying the application. It is simply connected to the basic module TSY 021 and so needs no own desktop power supply.

Additionally a RJ45 network cable for establishing an online connection is part of the application.

Performance Data

Processor	EDGE2 Technology
Processor cores	1
Internal cache	32-kbyte L1 Instruction Cache 32-kbyte L1 Data Cache 512-kbyte L2 Cache
Internal program and data memory (DDR3 RAM)	256-Mbyte
Internal remnant data memory	256-kbyte SRAM (battery buffered)
Internal storage device	512-Mbyte NAND Flash
Internal I/O	no
Interfaces	1x USB 2.0 (Type A) 1x Ethernet 10/100 (RJ45) 2x CAN bus (6-pin Weidmüller) 1x RS232 (9-pin D-Sub)
Internal interface connections and devices	1x TFT LCD color display 1x touch
Display Resolution	7" TFT color display 800 x 480 pixels

Control panel	touch screen (projective capacitive)
Signal generator	no
Status LEDs	no
Real-time clock	yes
Cooling	passive (fanless)

Electrical Requirements

Supply voltage	typically +24 V DC	
	minimum +18 V DC	maximum +30 V DC
Current consumption of power supply at +24 V	typically 180 mA (without externally connected devices)	maximum 290 mA (with externally connected devices)
Current consumption of stand-by voltage at +24 V	typically 110 mA (without externally connected devices)	maximum 180 mA (with externally connected devices)
Inrush current	600 mA (1 ms)	

Terminal

Dimensions	183.6 x 138.8 x 41.9 mm (W x H x D)
Material	front plate: 4 mm aluminum
Weight	circa 600 g

Environmental Conditions

Storage temperature	-10 ... +80 °C	
Environmental temperature	0 ... +60 °C	
Humidity	10-90 %, non-condensing	
EMC stability	in accordance with product standard EN 60730-1	
Vibration resistance	EN 60068-2-6	2-9 Hz: amplitude 3.5 mm 9-200 Hz: 1 g (10 m/s ²)
Shock resistance	EN 60068-2-27	15 g (150 m/s ²) duration 11 ms, 18 Shocks
Protection type	EN 60529 protection through housing	front: IP54 cover: IP20

7" VGA Display incl. Touch

Type	7" TFT LCD color display
Resolution	WVGA 800 x 480 pixels
Color depth	16-bit RGB (65K colors)
LCD mode	normal white
LCD polarizer	transmissive
Pixel size	0.1926 mm x 0.1790 mm
Number of pixels	800*3 (RGB) x 480
Active surface	154.08 mm x 85.92 mm
Backlighting	LED
Contrast	500:1
Brightness	typically 280 cd/m ²
Visible field	left and right 70°, below 70°, above 50°
Touch panel	projective capacitive touch
Sensor type	glass-glass
Surface	1.0 mm hardened glass front with black frame
Surface hardness	7H pencil hardness according to JIS K5400
Transparency	≥ 85 %
Cleaning	see chapter: Cleaning the Touch Screen

Article Number and Miscellaneous

Article number	12-100-031
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Notes

