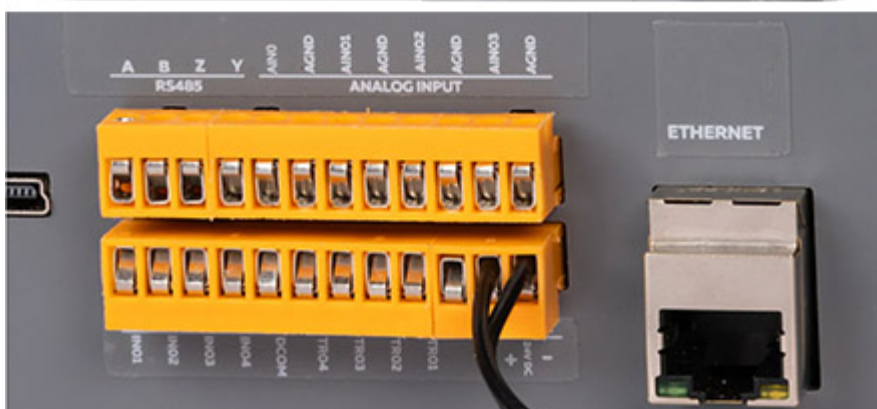


169.95 EUR

incl. 19% VAT, plus [shipping](#)

- 4 x Digital Inputs 24V !
- 4 x 4 - 20mA Analog Inputs !
- 4 x Transistor Outputs !
- 2.4Ghz WiFi + Bluetooth !



- ESP32-WROOM32 Module
- Built-in 5' Inch LCD Display with Resistive Touch
- Built-in Buzzer
- Built-in microSD Card support
- LVGL Supported Display
- DS3231 RTC with battery backup

- PLC functionality with Arduino
- 4 x Digital Inputs 24V
- 4 x 4 - 20mA Analog Inputs
- 4 x Transistor Outputs
- 2.4Ghz WiFi + Bluetooth
- W5500 Ethernet
- RS-485

ESP32-based Embedded HMI Solution with LVGL and Arduino support for IoT and Automation projects

|                                       |                                                                                                                                                         |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main                                  |                                                                                                                                                         |
| Range of Product                      | NORVI HMI Controller                                                                                                                                    |
| Product Type                          | Programmable HMI                                                                                                                                        |
| Certifications                        | EN 61131-2:2007<br>EN 61010-1:2010+A1:2019<br>EN IEC 61010-2-201:2018<br>2014/30/EU- Electromagnetic Compatibility (EMC)<br>Annex III, Part B, Module C |
| Rated supply voltage                  | 12 - 24V DC                                                                                                                                             |
| Communication                         | RS-485 Ethernet                                                                                                                                         |
| Inputs and Outputs                    | 4 x Digital Inputs<br>4 x Analog Inputs 4-20mA<br>4 x Transistor outputs                                                                                |
| Displays and Visual Indicators        | LCD Display                                                                                                                                             |
| Complementary                         |                                                                                                                                                         |
| Product Unified Code                  | ESP-HMI-5C-CI                                                                                                                                           |
| Product Part Numbers                  | ESP-HMI-5C-CI                                                                                                                                           |
| Mechanical Properties                 |                                                                                                                                                         |
| Enclosure                             | OP-300-B                                                                                                                                                |
| Mounting / Installation Method        | DIN Panel Mount / Cutout 116 x 163 mm                                                                                                                   |
| Terminal Type                         | SCREW TERMINAL                                                                                                                                          |
| Terminal Arrangement                  | Top and Bottom                                                                                                                                          |
| Length                                | 179.6 mm                                                                                                                                                |
| Height                                | 129.6 mm                                                                                                                                                |
| Width                                 | 42.6 mm                                                                                                                                                 |
| Environment                           |                                                                                                                                                         |
| IP degree of protection               | IP20                                                                                                                                                    |
| Operating altitude                    | 0 - 2000 meters                                                                                                                                         |
| Operating Temperature                 | -10 - +85C (185 °F)                                                                                                                                     |
| Storage altitude                      | 0 - 3000 meters                                                                                                                                         |
| Shock resistance                      | 15 gn for 11ms                                                                                                                                          |
| Resistance to electrostatic discharge | 4kV on contact 8kV on air                                                                                                                               |
| Resistance to electromagnetic fields  | 10 V/m (80 MHz - 1GHz)<br>3 V/m (1.4 MHz - 2 GHz)<br>1 V/m (2 MHz - 3 GHz)                                                                              |
| Electrical Characteristics            |                                                                                                                                                         |
| Rated Supply Voltage (V)              | 24V DC                                                                                                                                                  |
| Current Consumption (mA)              | 100mA                                                                                                                                                   |

|                          |                          |
|--------------------------|--------------------------|
| Recommended Power Source | 2W                       |
| Processing               |                          |
| SOC / MCU                | ESP32-S3-WROOM32-1-N16R8 |
| Flash Memory             | 16MB                     |
| ROM                      | 384 KB                   |
| SRAM                     | 512 KB                   |
| PSRAM                    | 8 MB (Octal SPI)         |
| Peripherals              |                          |
| microSD Card support     |                          |
| Card Type                | microSD                  |
| Interface                | SPI                      |
| SD CARD CS               | GPIO37                   |
| MISO                     | GPIO19                   |
| MOSI                     | GPIO12                   |
| SCLK                     | GPIO13                   |
| SD Detect                | NOT CONNECTED            |
| Internal RTC             |                          |
| RTC Chip                 | DS3231                   |
| Backup Battery Type      | CR2032                   |
| Interface                | I2C                      |
| I2C Address              | 0x68                     |
| SCL Pin                  | GPIO19                   |
| SDA Pin                  | GPIO20                   |
| TFT LED Display          |                          |
| Display Driver           | ER-TFT050-3              |
| Display Size             | 5 inch                   |
| HSYNC                    | GPIO6                    |
| VSYNC                    | GPIO5                    |
| DEN                      | GPIO4                    |
| DCLK                     | GPIO7                    |
| DISP CS                  | GPIO39                   |
| R0                       | Connected to GND         |
| R1                       | Connected to GND         |
| R2                       | Connected to GND         |
| R3                       | GPIO1                    |
| R4                       | GPIO41                   |
| R5                       | GPIO40                   |
| R6                       | GPIO38                   |
| R7                       | GPIO45                   |
| G0                       | Connected to GND         |
| G1                       | Connected to GND         |
| G2                       | GPIO48                   |
| G3                       | GPIO47                   |
| G4                       | GPIO21                   |
| G5                       | GPIO14                   |
| G6                       | GPIO9                    |
| G7                       | GPIO3                    |
| B0                       | Connected to GND         |
| B1                       | Connected to GND         |
| B2                       | Connected to GND         |
| B3                       | GPIO8                    |

|                                                 |                                             |
|-------------------------------------------------|---------------------------------------------|
| B4                                              | GPIO18                                      |
| B5                                              | GPIO17                                      |
| B6                                              | GPIO16                                      |
| B7                                              | GPIO15                                      |
| INPUTS and OUTPUTS                              |                                             |
| Digital Inputs                                  |                                             |
| Number of Digital Inputs                        | 4                                           |
| Digital Input Polarity                          | Sink and Source                             |
| Digital Input Maximum Voltage                   | 32V DC                                      |
| Digital Input Minimum Voltage                   | 18V DC                                      |
| Maximum Switching Frequency                     | 1 KHZ                                       |
| IO Connection                                   | Via PCA9535PW                               |
|                                                 | SCL - Pin 14                                |
|                                                 | SDA - Pin 15                                |
|                                                 | I2C Address - 0x73                          |
| Terminal Arrangement                            | Digital Input 0 - IO0                       |
|                                                 | Digital Input 1 - IO1                       |
|                                                 | Digital Input 2 - IO2                       |
|                                                 | Digital Input 3 - IO3                       |
| Analog Inputs                                   |                                             |
| Number of Analog Inputs                         | 4                                           |
| Analog Input Measurement Range                  | 4-20mA                                      |
| Analog Input Maximum Voltage                    | 38V DC                                      |
| Analog to Digital Converter (ADC)               | ADS1115                                     |
| Analog to Digital Converter (ADC) Communication | I2C                                         |
| Analog to Digital Converter (ADC) Address       | 0x48                                        |
| Terminal Arrangement                            | A0 : Analog Input 0 - ADS1115 - 0x48 - AIN0 |
|                                                 | A1 : Analog Input 1 - ADS1115 - 0x48 - AIN1 |
|                                                 | A2 : Analog Input 2 - ADS1115 - 0x48 - AIN2 |
|                                                 | A3 : Analog Input 3 - ADS1115 - 0x48 - AIN3 |
| Transistor Outputs                              |                                             |
| Number of Transistor Outputs                    | 4                                           |
| Transistor Output Type                          | OPEN COLLECTOR                              |
| Maximum Sink/Source Current (mA)                | 100mA                                       |
| Maximum Applicable Voltage                      | 40V DC                                      |
| Maximum Switching Frequency                     | 1 kHz                                       |
| IO Connection                                   | Via PCA9535PW                               |
|                                                 | SCL - Pin 14                                |
|                                                 | SDA - Pin 15                                |
|                                                 | I2C Address - 0x73                          |
| Terminal Arrangement                            | TR01 - IO4                                  |
|                                                 | TR02 - IO5                                  |
|                                                 | TR03 - IO6                                  |
|                                                 | TR04 - IO7                                  |
| RS-485 Communication                            |                                             |
| Communication Mode                              | FULL-DUPLEX                                 |
| Transceiver                                     | SP490CN-L                                   |
| Unit Load                                       | 1                                           |
| TX Pin                                          | GPIO3                                       |

|                                            |                                        |
|--------------------------------------------|----------------------------------------|
| RX Pin                                     | GPIO35                                 |
| Ethernet SPI - W5500                       |                                        |
| Transceiver                                | W5500                                  |
| Speed                                      | 10BaseT/100BaseTX                      |
| Supports Auto Negotiation                  | Yes                                    |
| TX/RX Buffer Size                          | Internal 32 Kbytes Memory              |
| Supported Hardwired TCP/IP Protocols       | TCP, UDP, ICMP, IPv4, ARP, IGMP, PPPoE |
| Number of Simultaneous independent sockets | 8                                      |
| SCSn                                       | GPIO10                                 |
| MISO                                       | GPIO11                                 |
| MOSI                                       | GPIO13                                 |
| SCLK                                       | GPIO12                                 |
| IO Expander                                |                                        |
| PCA9535PW PIN                              | Connection                             |
| 1 - A0                                     | Pulled up to 3.3V                      |
| 2 - A1                                     | Pulled up to 3.3V                      |
| 3 - RESET                                  | Pulled up to 3.3V                      |
| 4 - IO0                                    | Digital Input 1                        |
| 5 - IO1                                    | Digital Input 2                        |
| 6 - IO2                                    | Digital Input 3                        |
| 7 - IO3                                    | Digital Input 4                        |
| 8 - VSS                                    | GND                                    |
| 9 - IO4                                    | Transistor Output 1                    |
| 10 - IO5                                   | Transistor Output 2                    |
| 11 - IO6                                   | Transistor Output 3                    |
| 12 - IO7                                   | Transistor Output 4                    |
| 13 - INT                                   | Pulled up to 3.3V                      |
| 14 - SCL                                   | SCL                                    |
| 15 - SDA                                   | SDA                                    |
| 16 - VDD                                   | 3.3V                                   |