



## proop

PROFESSIONAL OPERATOR PANEL

4.3" OPERATOR PANEL - PROOPBLACK4

7" OPERATOR PANEL - PROOP7

5" OPERATOR PANEL - PROOPBLACK5

10.1" OPERATOR PANEL - PROOP10



## HTA INSTRUMENTATION (P) LTD.,

An ISO 9001: 2015 Certified Company & NABL Accredited Calibration Laboratory as per ISO/IEC 17025:2017

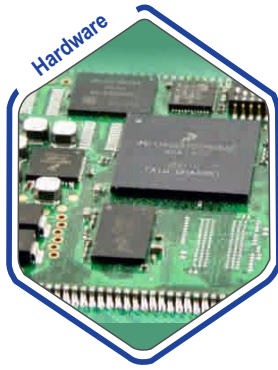
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ISO 9001:2015 CERTIFIED  
Certificate No. IQSC202010014



ARM Cortex-A Series



8GB eMMC



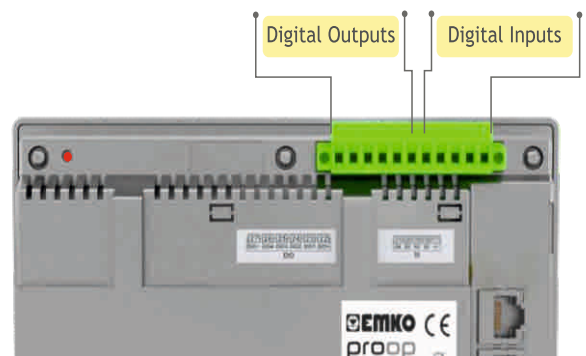
512 MB  
DDR3 SDRAM

Datalogger and  
Step Control Features  
Recipe Definition  
Multi-Language Editor

### Internal Analogue / Digital Input and Output

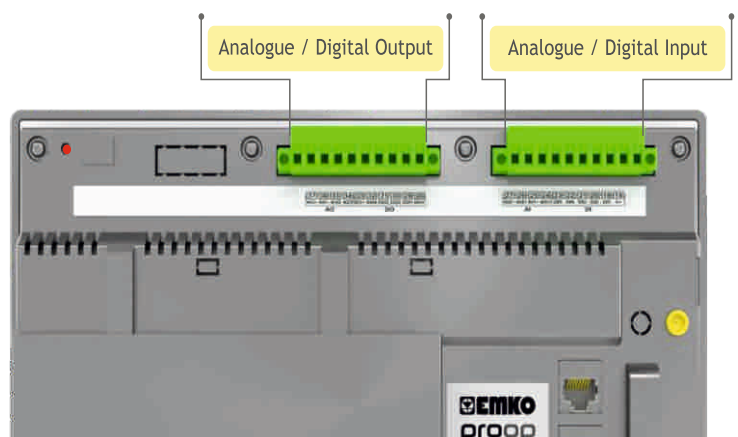
#### 7" Operator Panel - Proop7

- 4 Digital input
- 4 Digital output

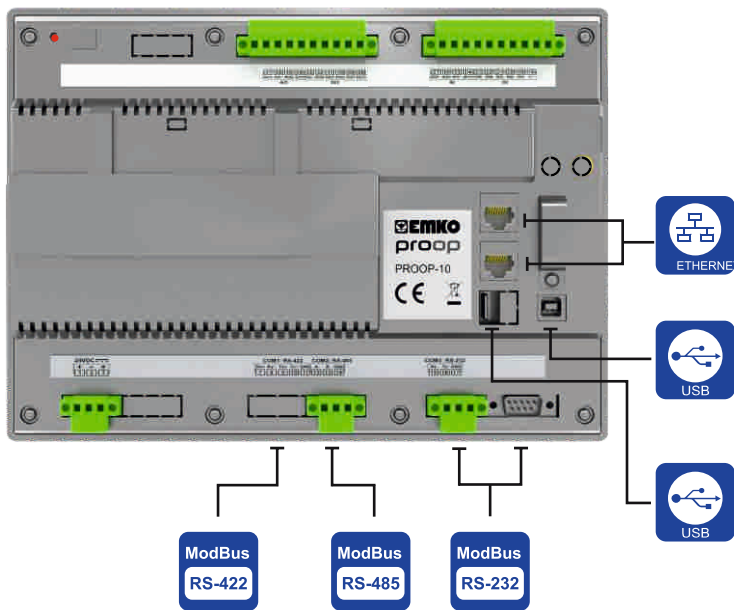


#### 10" Operator Panel - Proop10

- 5 Digital input
- 4 Digital output
- 2 x 0/4...20 mA Analogue input
- 2 x 0/4...20 mA Analogue Output
- Optional Analogue input :  
0...10Vdc or 0...50 mV or PT-100
- Optional Analogue output :  
0...10Vdc



## Communication Features



**Internal Wi-Fi**

- IEEE 802.11 b/g/n standard
- 2.4 GHz frequency band
- Bitrate: max 72 Mbps
- WEP/WPA and WPA2 security protocols
- Soft-AP (access point) support
- Internal integrated antenna
- Certificates:
  - EN 301 489 (EMC immunity)
  - EN 300 328 (Radio emissions)
  - EN 60950 (Safety standards)

### Communication Protocols

MODBUS	Modbus-R TU
MODBUS	Modbus-ASCII
MODBUS	ModbusTCP/IP
MODBUS	Modbus-ASCII(Slave)
MODBUS	Modbus-RTU(Slave)
MODBUS	Modbus TCP/IP(Slave)
SIEMENS	S7-300(ISOTCP)
SIEMENS	S7-400(ISOTCP)
SIEMENS	S7-1200(ISOTCP)
SIEMENS	S7-1500(ISOTCP)
BACNET	MS/TP
BACNET	IP
OMRON	Host Link
OMRON	FINS
DELTA	DVP Series PLC

## Project Download and Upload Via USB and Ethernet



- USB Input (With USB cable connection) : Project Upload  
High speed data transfer with ethernet project upload/download, VNC remote connection and SMB file sharing
- USB Host Input (With Flash memory) : Upload  
Project upload and data recording with USB 2.0
- USB Host Input for Keypad, Mouse Connection
- Barcode reader, Barcode Printer, RFID reader

## Regional Formatting Format Support



Time, date and number formats can be set for local territories.

PROOP BLACK LIFE



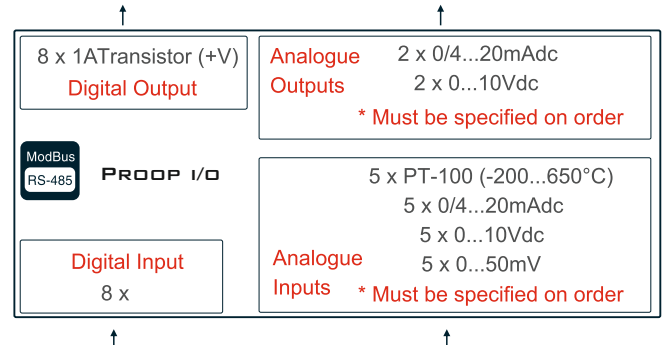
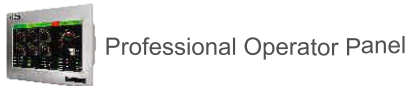
Multi-language support,  
Free Type and Windows Font support,  
Defining user image library,  
Simulation feature,  
Video playback feature.

C / C ++ real-time programming,  
BACNET M\$TP  
MODBUS-R TU / -ASCII (Master / Slave) communication,  
Compatible with OMRON Host Link, DELTA DVP Series PLCs.

ARM Cortex-A Series	8GB eMMC	512 MB DDR3 SDRAM	50000 hours Backlight Life
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Technical Specifications

System		Display	
Communication Ports	1x RS-232 + 1x RS485 +1x USB host + 1x USB device	LCD Backlight	Led
RealTime Clock	Internal	Touch Method	Resistive Analogue
Environmental Conditions		Power	
Protection Class	Ip65	Operating Voltage	18...30Vdc
Operating Tem. / Humidity	0...50°C / 0...90%RH	Power Consumption	5W (4.3"), 6W (5") 7W (7")
Storage Temperature	-20...60°C	RTC Battery / Life	Cr2032 button cell lithium ba 3V / 10years
Communication Ports			
RS-232	Max.230400 Baudrate		
RS-485	Max.57600 Baudrate		



\* 2 fast counters can be defined  
\* Maximum count frequency of a high-speed counter Maximum 10 kHz for encoder inputs, 5 kHz for counter inputs.

Product Codes

PROOP BLACK ECO	Display Type	Display Colors	Display Resolution	Luminance (Cd/m <sup>2</sup> )	Device Dimensions	Panel Cut-Out	Weight
Prop.black-4.eco	4.3" TFT	260K colors	480x272	530	153x105x50mm	143x97mm	350gr
Prop.black-5.eco	5" TFT	260K colors	800x480	330	153x105x50mm	143x97mm	350gr
Prop.black-7.eco	7" TFT	260K colors	800x480	300	206x152x50mm	196x142mm	700gr

# PROOP CONTROL SERIES

## PROOP BLACK CONTROL

## PROOP CONTROL



10.1" TFT LCD  
Touch screen

7" TFT LCD  
Touch screen




7" TFT LCD  
Touch screen


10.1" TFT LCD  
Touch screen


Multi-language support, Free Type and Windows Font support,  
Defining user image library,  
Simulation feature,  
MQTT communications protocol,  
SQL client property,  
VNC remote control feature,


SMB file sharing,  
Video playback feature,  
C / C ++ real-time programming,  
BACNET MSTP, MODBUS-RTU / -ASCII (Master / Slave) communication,  
Communication with SIEMENS, BACKNET IPOMRON FINS, MODBUSTCP,  
Compatible with OMRON Host Link, DELTA DVP Series PLCs.

 ARM Cortex-A Series

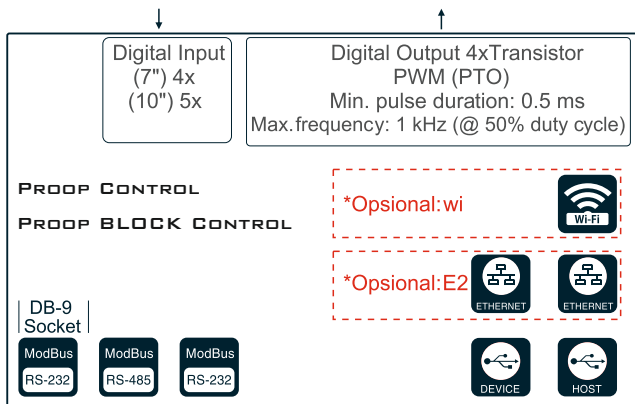
 8GB eMMC

 512 MB  
DDR3 SDRAM

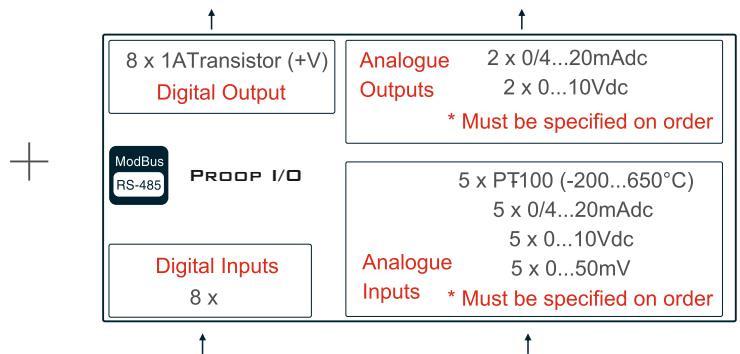
 50000 hours  
Backlight Life

 Professional Operator Panel

 Optional  
Input / Output Expansion Module



\* Optical Isolated Digital Inputs and Outputs  
\* Digital Input and Output Sampling Period 50 ms.



\* 2 fast counters can be defined  
\* Maximum count frequency of a high-speed counter Maximum 10 kHz for encoder inputs, 15 kHz for counter inputs.

## HMI PANELS with INTERNAL DIGITAL INPUTS / OUTPUTS

### Technical Specifications

#### Dimensions

Device Dimensions	7" (206x152x50mm) / 10.1" (278x200x50mm)
Panel Cut-Out	7" (196x142mm) / 10.1" (265x186mm)
Weight	7" (700gr) , 10.1" (1300gr)

#### Environmental Conditions

Protection Class	Ip65
Operating Tem. / Humidity	0...50°C / 0...90%RH
Storage Temperature	-20...60°C

#### Communication Ports

RS-232	Max.230400 Baudrate
RS-485	Max.57600 Baudrate

#### Display

LCD Backlight	Led
Touch Method	Resistive/Analogue

#### Power

Operating Voltage	18...30Vdc
Power Consumption	6W (7"), 8W (10.1")
RTC Battery / Life	Cr2032 button cell lithium bat. 3V / 10years

### Product Codes

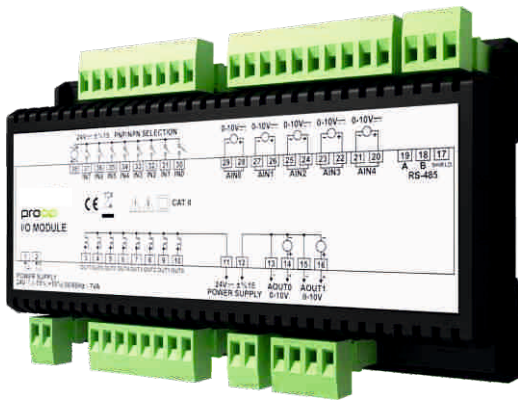


Proop Control	Display Type	Display Colors	Display Resolution	Luminance (Cd/m2)	Ethernet (10/100 Mbps)	Wifi (IEEE 802.11b/g/n)	Digital Inputs	Digital Outputs (Transistor)
Proop-7C	7" TFT	260K color	800x480	300		1x	4x	4x
Proop-7C.wi	7" TFT	260K color	800x480	300			4x	4x
Proop-7C.E	7" TFT	260K color	800x480	300	1x		4x	4x
Proop-7C.E2	7" TFT	260K color	800x480	300	2x		4x	4x
Proop-7C.Ewi	7" TFT	260K color	800x480	300	1x	1x	4x	4x
Proop-7C.E2wi	7" TFT	260K color	800x480	300	2x	1x	4x	4x
Proop-10C	10.1" TFT	16M color	1024x600	270			5x	4x
Proop-10C.wi	10.1" TFT	16M color	1024x600	270		1x	5x	4x
Proop-10C.E	10.1" TFT	16M color	1024x600	270	1x		5x	4x
Proop-10C.Ewi	10.1" TFT	16M color	1024x600	270	1x	1x	5x	4x

### Product Codes



Proop Black Control	Display Type	Display Colors	Display Resolution	Luminance (Cd/m2)	Ethernet (10/100 Mbps)	Wifi (IEEE 802.11b/g/n)	Digital Inputs	Digital Outputs (Transistor)
Proop.black-7C	7" TFT	260K color	800x480	300		1x	4x	4x
Proop.black-7C.wi	7" TFT	260K color	800x480	300			4x	4x
Proop.black-7C.E	7" TFT	260K color	800x480	300	1x		4x	4x
Proop.black-7C.E2	7" TFT	260K color	800x480	300	2x		4x	4x
Proop.black-7C.Ewi	7" TFT	260K color	800x480	300	1x	1x	4x	4x
Proop.black-7C.E2wi	7" TFT	260K color	800x480	300	2x	1x	4x	4x
Proop.black-10C	10.1" TFT	16M color	1024x600	270			5x	4x
Proop.black-10C.wi	10.1" TFT	16M color	1024x600	270		1x	5x	4x
Proop.black-10C.E	10.1" TFT	16M color	1024x600	270	1x		5x	4x
Proop.black-10C.Ewi	10.1" TFT	16M color	1024x600	270	1x	1x	5x	4x



Proop-I/O

I/O Module Proop Rear Panel Mounting



I/O Module Mounting on DIN-Rail



Technical Specifications

<b>System Resources</b>	
Communication Ports	1x RS485
<b>Environmental Conditions</b>	
Working Temperature	0...50°C
Humidity	0...90%RH
<b>Supply</b>	
Module Supply Voltage	24 Vdc/ac (Insulated)
<b>Size / Weight</b>	
Size	190 x 90 x 35mm
Weight	238gr
<b>Communication Port</b>	
RS-485	Max.57600 Baudrate
<b>Inputs / Outputs</b>	
Digital	Sample Rate 50 msec.
Analogue	Sample Rate 250 msec. Resolution 14 Bit

Proop-I/O	2	2	1	3	E	F
<b>Module Supply Voltage</b>	24Vdc/Vac (Insulated)					
<b>Communication</b>	RS-485 (Insulated)					
<b>Digital Inputs</b>	8x Digital					
<b>Digital Outputs</b>	8x 1A Transistor (+V)					
<b>E Analogue Inputs</b>	5x Pt-100 (-200...650°C)					
	5x 0/4...20mAdc					
	5x 0...10Vdc					
	5x 0...50mV					
<b>F Analogue Outputs</b>	2x 0/4...20mAdc					
	2x 0...10Vdc					

Product Codes

Proop-I/O	Digital Inputs	Digital Outputs	Analogue Inputs	Analogue Outputs
Proop-I/O.P.2.2.1.3.1.1	8x Digital	8x 1A Transistor (+V)	5x Pt-100 (-200...650°C)	2x 0/4...20mAdc
Proop-I/O.P.2.2.1.3.2.1	8x Digital	8x 1A Transistor (+V)	5x 0/4...20mAdc	2x 0/4...20mAdc
Proop-I/O.P.2.2.1.3.3.1	8x Digital	8x 1A Transistor (+V)	5x 0...10Vdc	2x 0/4...20mAdc
Proop-I/O.P.2.2.1.3.4.1	8x Digital	8x 1A Transistor (+V)	5x 0...50mV	2x 0/4...20mAdc
Proop-I/O.P.2.2.1.3.1.2	8x Digital	8x 1A Transistor (+V)	5x Pt-100 (-200...650°C)	2x 0...10Vdc
Proop-I/O.P.2.2.1.3.2.2	8x Digital	8x 1A Transistor (+V)	5x 0/4...20mAdc	2x 0...10Vdc
Proop-I/O.P.2.2.1.3.3.2	8x Digital	8x 1A Transistor (+V)	5x 0...10Vdc	2x 0...10Vdc
Proop-I/O.P.2.2.1.3.4.2	8x Digital	8x 1A Transistor (+V)	5x 0...50mV	2x 0...10Vdc