

#### HMI Operator Interface



5

### Contents

#### Description

#### HMI Operator Interface

	<i>Page</i>
Features	
Protocols . . . . .	<b>V7-T5-15</b>
Standards and Certifications . . . . .	<b>V7-T5-15</b>
Catalog Number Selection . . . . .	<b>V7-T5-16</b>
Product Selection . . . . .	<b>V7-T5-16</b>
Technical Data and Specifications . . . . .	<b>V7-T5-20</b>
Dimensions . . . . .	<b>V7-T5-24</b>



### Product Description

Positioned between the ELC graphics panels and the XV series of operator interfaces, **HMI** is the workhorse of the industry. Ideal for machinery OEMs, the **HMI** series provides the most value with the latest technology and advanced feature set in an economical hardware and software package. All units offer RS-232, RS-485 and RS-422 communications. The 7, 8 and 10 inch units also offer Ethernet communication options.

### Features

- Auto-scale application from 10 to 4 inch
- Screen and backlight saver
- Pop-up screens
- Animated graphics
- Conditional visibility
- Application lock for IP protection
- Data archiving
- Multi-language
- Eight levels of security
- Ethernet communication drivers
- Ethernet, COMM port and USB upload/download
- USB ports for data storage
- Three serial ports
- Up to four simultaneous protocols
- Math and logic functions
- CSV import/export tags and recipes
- Macro capability
- Alarm/event recording and viewing
- Real-time and historical trending
- On and off-line simulation

### HMI/VU Exclusive Features

- VU server
- VU remote
- Multi-link
- Onboard Ethernet on some models
- Audio and SD on some models
- Supports USB mouse and other industrial pointing devices

## Protocols

### Supported Protocols

#### Manufacturer and Protocol

##### Allen-Bradley

MicroLogix

SLC 5

DH485

Ethernet/IP (Micro, Compact and ControlLogix, SCL 5)

##### Cimon

BP Series Loader Protocol

CP Series Loader Protocol

XP Series Loader Protocol

##### Copley

Stepnet

##### Danfoss

VLT 2800 (FC Protocol)

##### Delta

Delta DVP PLC

Delta DVP EH/SA ES/EX/SS (V5.1)

Delta Controller ASCII

Delta Controller RTU

Delta DVP TCP/IP

##### Eaton

ELC Series Serial

ELC Series TCP/IP

GVX—RTU

GVX—ASCII

MVX—RTU

MVX—ASCII

NFX—RTU

NFX—ASCII

Eaton Controller ASCII

Eaton Controller RTU

EasyPLC 800/MFD (EasyCom)

##### Emerson

EC20 Series

##### Facon

FB Series

#### Manufacturer and Protocol

##### Festo

Festo PLC

##### FuFeng

APC

##### Fuji Electric

Frenic Inverter

##### GE Fanuc

Series 90 SNP

##### Hitachi

EH Series Procedure 1

EH Series Procedure 2

##### Hust

Hust CNC Controller

Hust CNC Controller v2

##### IDEC

Micro Smart

##### Jetter

JC Series

Nano Series

##### Keyence

KV/KZ Series

##### Koyo

DL/SU Series

K-Sequence

##### Lenze

LECOM-A/B Protocol

##### LG

Master-K 120S/200S

Glofa GM6 CNET

Master-K CNET

XGT CNET

##### LiYan

LYPLC EX

#### Manufacturer and Protocol

##### M2i

M2i Master

M2i Slave

##### Matsushita

FP Series

##### Mirle

FAMA SC

##### Mitsubishi

FX Series

FX2N

FX3U

FX Series Computer Link

A Series/J71UC24

A2A/A2AS/A2USH

A1SH/A3N/A2ASH CPU Port

Q Series CPU Port

Q Series Ethernet

Q Series Computer Link

J2s Series

##### MKS

BY125

CT150

MC700/720

##### Modbus

ASCII (Master)

984 RTU (Master)

RTU 2W (Master)

ASCII Hex Address (Master)

RTU Hex Address (Master)

ASCII nW (Master)

RTU nW (Master)

ASCII (Slave)

RTU (Slave)

TCP/IP

#### Manufacturer and Protocol

##### Modicon

TSX Micro (Uni-Telway)

TSX Premium (Uni-Telway 1-1)

NEZA (Uni-Telway)

TWIDO

##### Moeller

PS3 Series

PS4 Series

##### NIKKI DENSO

NCS-FI/FS Series

##### Omron

C Series

CJ1 Series

TPM1A

##### Parker

Compax 3

##### SIEMENS

S7 200

S7 300 (with PC Adaptor)

S7 300 (without PC Adaptor)

S7 300 (Direct MPI)

S7 300 (ISO TCP)

S7 1200 (ISO TCP)

##### Taian

TP02

##### Ti

Ti435

##### Vigor

M Series

##### VIPA

S7 300 (with PC Adaptor)

##### YOKOGAWA

ACE

## Standards and Certifications

- CE
- UL
- cUL
- C-Tick
- RoHS

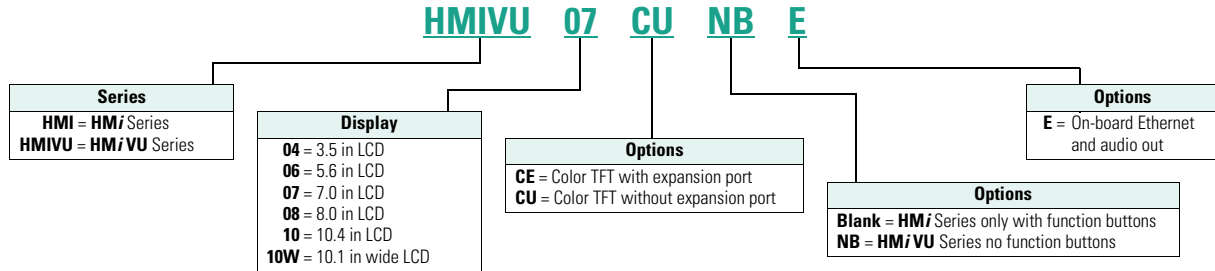


#### Catalog Number Selection

#### HM*i* Operator Interface

#### HM*i*

5



#### Product Selection

HMI\_

#### HM*i* Products



Description	Catalog Number
4 in color TFT touchscreen with function buttons	HMIVU04CU
8 in color TFT with expansion slot and function buttons	HMIVU08CE
10 in color TFT with expansion slot and function buttons	HMIVU10CE

#### HM*i*VU Products

Description	Catalog Number
6 in color TFT, no function buttons, no Ethernet	HMIVU06CUNB <sup>①</sup>
7 in color TFT, no function buttons, on-board Ethernet	HMIVU07CUNBE
8 in color TFT, no function buttons, on-board Ethernet	HMIVU08CUNBE
10 in color TFT, no function buttons, on-board Ethernet	HMIVU10WCUNBE

#### Note

<sup>①</sup> Physically identical to earlier Catalog Number HMIVU06CU. HMIVU06CUNB will supersede HMIVU06CU once existing inventory is depleted.

**Software and Accessories**

**HMISoft Programming Software**

For use with the of **HMi** and **HMiVU** series touchscreens. This easy to use Windows based software can run on Windows XP and Windows 7 32-bit and 64-bit systems.

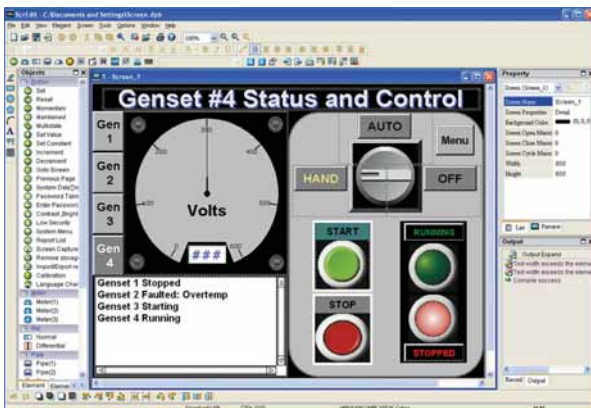
- Ethernet and serial communication drivers
- Up to four simultaneous protocols
- Screen manager
- Over 70 on-screen objects
- Pop-up screens
- Animated graphics
- Conditional visibility
- Built-in picture library
- Create your own picture library
- Multi-language
- Eight levels of security
- Macro editing with math and logic functions
- CSV import/export tags and recipes
- Alarm/event recording and viewing
- Store archived data, alarms and events to USB
- Real-time and historical trending
- Auto-scale application from 10 to 4 inch
- On and off-line simulation
- Upload/download applications over USB, serial or Ethernet
- Application lock for IP protection
- Screen and backlight saver
- Multi-link allows sharing of PLC data over Ethernet ①
- VU Server optional download ①
- VU Remote optional download ①

HM <i>i</i> Editor	HM <i>i</i> Editor	Catalog Number
	<b>Description</b> Programming software for <b>HMi</b> and <b>HMiVU</b> models	<b>HMISOFT</b>

**HMi Screen Management**



**HMISoft Editor**



**Note**  
① Exclusive **HMiVU** features.

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## Operator Interface Products

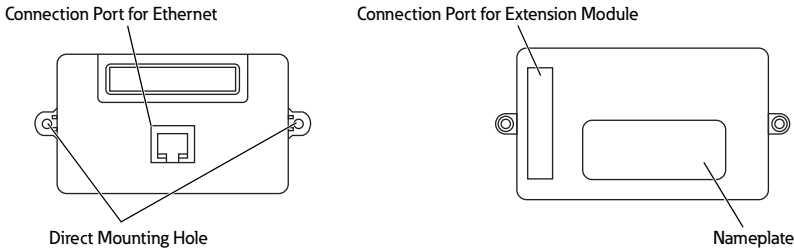
### HMI Operator Interface

#### Ethernet Expansion Module

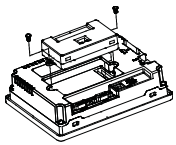
The HMIECENT expansion module adds 10/100 Ethernet communications when plugged into the expansion slot of a 6, 8 or 10 inch **HMI** series units only (not for use with **HMI VU** models). Upload and download programs and communicate to other supported Ethernet devices listed in the Supported Protocols table. No need to distinguish between patch or crossover cables because this module auto-detects and adjusts for proper operation.

#### Product Outline

5



HMIECENT



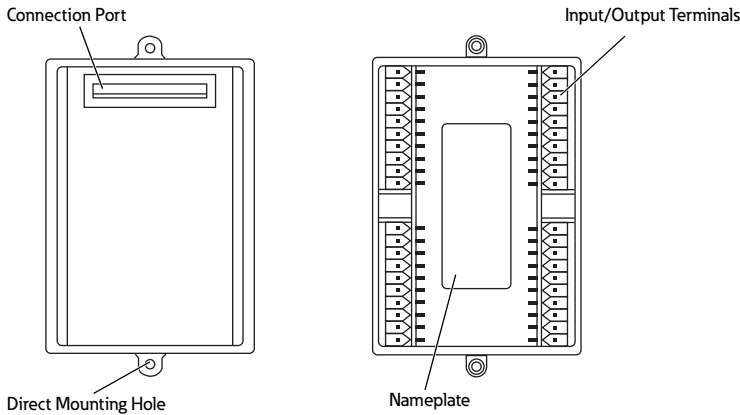
HMIECENT

Description	Catalog Number
Ethernet expansion module	HMIECENT

#### I/O Expansion Modules

The HMIEC0806 and HMIEC1612 are 14 and 28 discrete I/O expansion modules providing eight DC inputs and six relay outputs or 16 DC inputs and 12 relay outputs. These modules plug into the available expansion slot on the back of the **HMI** series 6, 8 and 10 inch units only (not for use with **HMI VU** models). No need for a separate PLC controller with this built in unit. Combine operator interface and logic into a single platform—use HMISOFT to build both the ladder logic and OI program.

#### Product Outline



#### I/O Expansion Modules

Power	Input Unit		Output Unit		Catalog Number
	Point	Type	Point	Type	
5 Vdc supplied by <b>HMI</b>	8	DC Type sink or source	6	Relay	HMIEC0806
	16		12	Relay	HMIEC1612

HMIEC\_

Description	Catalog Number
I/O expansion module, 8 in/6 out	HMIEC0806
I/O expansion module, 16 in/12 out	HMIEC1612

**Adapter Plate**

Description	Catalog Number
6 in <b>HMI</b> adapter plate for PM1000	<b>APPM1HM16</b>

**Kits**

Description	Catalog Number
8 in anti-glare overlay kit (5/kit)	<b>17AGT</b>
10 in anti-glare overlay kit (5/kit)	<b>39AG</b>
<b>HMI</b> spare parts kits (includes several power connectors, battery doors, gaskets, mounting clips, etc.)	<b>HMI-SPKIT</b>

**Replacement Gaskets**

Description	Catalog Number
4 in <b>HMI</b> replacement gasket (2/kit)	<b>HMI04-GASKET</b>
6 in <b>HMI</b> and 7 in <b>HMI VU</b> replacement gasket (2/kit)	<b>HMI06-GASKET</b>
8 in <b>HMI</b> replacement gasket (2/kit)	<b>HMI08-GASKET</b>
10 in <b>HMI</b> replacement gasket (2/kit)	<b>HMI10-GASKET</b>

**Cable**

Description	Catalog Number
1 meter cable to connect between the <b>HMI</b> and Eaton Logic Controller (ELC)	<b>ELC-CBPCELC1</b>
3 meter cable to connect between the <b>HMI</b> and Eaton Logic Controller (ELC)	<b>ELC-CBPCELC3</b>

**Power Supply**

Description	Catalog Number
1 amp 24 Vdc power supply	<b>ELC-PS01</b>
2 amp 24 Vdc power supply	<b>ELC-PS02</b>

## Technical Data and Specifications

### HMI Operator Interface

Description	Specification HMI04CU	HMI08CE	HMI10CE
Display type	TFT LCD	TFT LCD	TFT LCD
Display color	65536 colors	65536 colors	65536 colors
Screen pixels	320 x 240 pixels	640 x 480 pixels	640 x 480 pixels
NIT rating	300 cd/m <sup>2</sup>	400 cd/m <sup>2</sup>	330 cd/m <sup>2</sup>
LCD module	LED backlight	CCFL backlight	2CCFL backlight
Backlight life	30,000 hours half-life at 25°C <sup>①</sup>	50,000 hours half-life at 25°C <sup>①</sup>	50,000 hours half-life at 25°C <sup>①</sup>
Display size	3.5 in (70.1 x 52.6 mm)	8 in (162.2 x 121.7 mm)	10.4 in (215.2 x 162.4 mm)
Operating system	Real Time OS	Real Time OS	Real Time OS
MCU	32-bit RISC micro-controller/206.4 MHz	32-bit RISC micro-controller/206.4 MHz	32-bit RISC micro-controller/206.4 MHz
Memory			
Program	3M	7M	7M
History	120K	360K	360K
Recipe	64K <sup>②</sup>	128K	128K
Alarm	4K	16K	16K
Data registers			
Volatile	64K	64K	64K
Non-volatile	1K	1K	1K
Backup memory (bytes)	128K	512K	512K
USB host <sup>③</sup>	✓	✓	✓
Expansion port	✓	✓	✓
USB client for programming	✓	✓	✓
Serial COM port			
COM1	RS-232	RS-232	RS-232
COM2	RS-422/RS-485	RS-232/RS-422/RS-485	RS-232/RS-422/RS-485
COM3	RS-232	RS-232/RS-422/RS-485	RS-232/RS-422/RS-485
Function key	4 user defined keys + 1 system key	6 user defined keys + 1 system key	7 user defined keys + 1 system key
Perpetual calendar (RTC)	Built-in	Built-in	Built-in
Cooling method	Natural air circulation	Natural air circulation	Natural air circulation
Enclosure ratings	IP65/NEMA 4X (indoor only)	IP65/NEMA 4X (indoor only)	IP65/NEMA 4X (indoor only)
Agency certifications	CE/UL/cUL/C-Tick	CE/UL/cUL/C-Tick	CE/UL/cUL/C-Tick
Operating voltage		DC +24V (-10% to +15%) (use isolated power supply) <sup>④</sup>	
Power consumption <sup>⑤</sup>	3.36W	14W	15W
Operating temp.	32° to 122°F (0° to 50°C)	32° to 122°F (0° to 50°C)	32° to 122°F (0° to 50°C)
Storage temp.	-4° to 140°F (-20° to 60°C)	-4° to 140°F (-20° to 60°C)	-4° to 140°F (-20° to 60°C)
Ambient humidity		10% to 90% RH (0° to 40°C), 10% to 55% RH (41° to 50°C) pollution degree 2	
Shock	30G at 11 ms	30G at 11 ms	30G at 11 ms
Vibration resistance		IEC61131-2 compliant 5 Hz ≤ f < 9 Hz = continuous: 1.75 mm/occasional: 3.5 mm 9 Hz ≤ f < 150 Hz = continuous: 0.5g/occasional: 1.0g X, Y, Z directions for 10 times	
Backup battery		3V lithium battery CR2032 x 1/battery life: 5 years	
Backup battery life	Three years or more at 25°C	3 years or more at 25°C	3 years or more at 25°C
Buzzer		Multitone frequency (2K to 4K Hz)/85dB	
Dimensions	5.54 x 4.13 x 1.76	9.57 x 7.01 x 2.06	11.70 x 8.74 x 2.01
(W) x (H) x (D) in inches (mm)	(140.8 x 104.8 x 44.8)	(243.1 x 178.1 x 52.4)	(297.1 x 222.1 x 51.1)
Panel cutout	4.68 x 3.65	9.11 x 6.55	11.23 x 8.28
(W) x (H) in inches (mm)	(118.8 x 92.8)	(231.4 x 166.4)	(285.2 x 210.2)
Weight in lbs (kg)	0.62 (0.310)	2.52 (1.147)	3.79 (1.721)

#### Notes

- ① The half-life of backlight is defined as original luminance being reduced by 50% when the maximum driving current is supplied to **HMI**. The life of LED backlight shown is an estimated value under 25°C normal temperature and humidity conditions.
- ② Program memory is used for recipes.
- ③ USB Host port can provide up to 5V/500mA of power. Supports USB memory devices and certain USB printers.
- ④ Use isolated power supply (not applicable for HMI08CE and HMI10CE).
- ⑤ The value of the power consumption indicates the electrical power consumed by **HMI** without peripheral devices. In order to ensure the normal operation, it is recommended to use a power supply which the capacity is 1.5 to 2 times the value of the power consumption.

## HMI VU Operator Interface

Description	Specification			
	HMIVU06CUNB	HMIVU07CUNBE	HMIVU08CUNBE	HMIVU10WCUNBE
LCD Module				
Display type	5.6 in TFT LCD	7 in TFT LCD	8 in TFT LCD	10.1 in widescreen TFT LCD
Display color	65536 colors	65536 colors	65536 colors	65536 colors
Resolution	320 x 234 pixels	800 x 600 pixels	800 x 600 pixels	1024 x 600 pixels
Backlight	LED backlight (20,000 hours half-life at 25°C) ①	LED backlight (10,000 hours half-life at 25°C) ①	LED backlight (10,000 hours half-life at 25°C) ①	LED backlight (10,000 hours half-life at 25°C) ①
Brightness NIT rating	200 DC/m <sup>2</sup>	200 DC/m <sup>2</sup>	250 DC/m <sup>2</sup>	200 DC/m <sup>2</sup>
Display size	113.28 x 84.70 mm	141 x 105.75 mm	162 x 121.5 mm	226 x 128.7 mm
Operation system	Real Time OS	Real Time OS	Real Time OS	Real Time OS
MCU	32-bit RISC micro-controller	32-bit RISC micro-controller	32-bit RISC micro-controller	32-bit RISC micro-controller
NOR Flash ROM	Flash ROM 8MB OS System: 2MB User Application: 6MB	Flash ROM 128MB OS System: 30MB Backup: 16MB User Application: 82MB	Flash ROM 128MB OS System: 30MB Backup: 16MB User Application: 82MB	Flash ROM 128MB OS System: 30MB Backup: 16MB User Application: 82MB
SDRAM	16M bytes	64M bytes	64M bytes	64M bytes
Backup memory	128K bytes	16M bytes	16M bytes	16M bytes
Sound effect output				
Buzzer	Multi-tone frequency (2–4 kHz)/85dB	Multi-tone frequency (2–4 kHz)/85dB	Multi-tone frequency (2–4 kHz)/85dB	Multi-tone frequency (2–4 kHz)/85dB
AUX	N/A	Stereo output	Stereo output	Stereo output
Ethernet interface	N/A	IEEE 802.3, IEEE 802.3u 10/100 Mbps auto-sensing has built-in isolated power circuit ③		
Memory card	N/A	SD card (supports SDHC)	SD card (supports SDHC)	SD card (supports SDHC)
USB	1 USB Host ② Ver 1.1 1 USB Client Ver 1.1	1 USB Host ② Ver 2.0 1 USB Client Ver 1.1	1 USB Host ② Ver 2.0 1 USB Client Ver 1.1	1 USB Host ② Ver 2.0 1 USB Client Ver 1.1
Serial COM port				
COM1	RS-232 (supports hardware flow control)	RS-232 (supports hardware flow control)	RS-232 (supports hardware flow control)	RS-232 (supports hardware flow control)
COM2	RS-232/RS-485	RS-232/RS-422/RS-485 (has built-in isolated power circuit) ③	RS-232/RS-422/RS-485 (has built-in isolated power circuit) ③	RS-232/RS-422/RS-485 (has built-in isolated power circuit) ③
COM3	RS-422/RS-485	RS-232/RS-422/RS-485 (has built-in isolated power circuit) ③	RS-232/RS-422/RS-485 (has built-in isolated power circuit) ③	RS-232/RS-422/RS-485 (has built-in isolated power circuit) ③
Perpetual calendar (RTC)	Built-in	Built-in	Built-in	Built-in
Cooling method	Natural air circulation	Natural air circulation	Natural air circulation	Natural air circulation
Safety approval	CE/UL	CE/UL	CE/UL	CE/UL
Waterproof degree	IP65/NEMA 4X (indoor use only)	IP65/NEMA 4X (indoor use only)	IP65/NEMA 4X (indoor use only)	IP65/NEMA 4X (indoor use only)
Operation voltage ④	DC +24V (–10 to +15%) Please use isolated power supply	DC +24V (–10 to +15%) (has built-in isolated power circuit) ③	DC +24V (–10 to +15%) (has built-in isolated power circuit) ③	DC +24V (–10 to +15%) (has built-in isolated power circuit) ③
Voltage endurance	AC500V for 1 minute (between charging [DC24 terminal] and FG terminals)			
Power consumption ④	3.0W	7.68W	7.8W	12W
Backup battery	3V lithium battery CR2032 x 1	3V lithium battery CR2032 x 1	3V lithium battery CR2032 x 1	3V lithium battery CR2032 x 1
Backup battery life	Varies based on temperature and conditions. Approximately 3 years or more at 25°C.			
Operation temp.	0° to 50°C	0° to 50°C	0° to 50°C	0° to 50°C
Storage temp.	–20° to 60°C	–20° to 60°C	–20° to 60°C	–20° to 60°C
Ambient humidity	10%–90% RH [0° to 40°C], 10%–55% RH [41° to 50°C] Pollution Degree 2			
Vibration resistance	IEC 61131-2 Compliant 5 Hz ≤ f ≤ 9 Hz = continuous: 1.75 mm/occasional: 3.5 mm 9 Hz ≤ f ≤ 150 Hz = continuous: 0.5g/occasional: 1.0g X, Y, Z directions for 10 times			
Dimensions				
(W) x (H) x (D) mm	184 x 144 x 50	184 x 144 x 50	227.1 x 174.1 x 61	272 x 200 x 61
Panel cutout				
(W) x (H) mm	172.4 x 132.4	172.4 x 132.4	219.4 x 166.5	261.3 x 189.3
Weight	Approx. 670g	Approx. 800g	Approx. 1228g	Approx. 1520g

## Notes

- ① The half-life of backlight is defined as original luminance being reduced by 50% when the maximum driving current is supplied to **HMI**. The life of LED backlight shown is an estimated value under 25°C normal temperature and humidity conditions
- ② USB Host port can provide up to 5V/500 mA of power.
- ③ The withstand voltage of the isolated power circuit is 1500V peak for 1 minute.
- ④ The value of the power consumption indicates the electrical power consumed by **HMI** only without connecting to any peripheral devices. In order to ensure the normal operation, it is recommended to use a power supply where the capacity is 1.5–2 times the value of the power consumption.



## HMIEC0806/HMIEC1612

Description	Specification	Remark
Control method	Stored program, cyclic scan system	—
I/O processing method	Batch I/O (refresh)	Immediate refresh command available only with I/O of the MPU
Execution speed	Basic command (30 $\mu$ s)	Application command (30 ~ hundreds $\mu$ s)
Program language	Commands + ladder diagram + SFC	Step commands included
Program capacity	999 Steps	Built-in EEPROM
Commands	Basic commands: 32 (including the STL commands)	Application commands: 59
Step relay (latched)		
General step point	128 points	S0 ~ S127
Auxiliary relay		
General	1024 points	M0 ~ M511, M768 ~ M999, 744 points; M1000 ~ M1279, 280 points <sup>①</sup>
Latched	256 points	M512 ~ M767
Timer		
Digital	64 points	T0 ~ T63 (100 ms time base)
	63 points	T64 ~ T126 (10 ms time base)
	1 point	T127 (1 ms time base)
Counter		
General	112 points	C0 ~ C111
Latched	16 points	C112 ~ C127
32 bit	13 points	C235, C236, C237, C238, C241, C242, C244, C246, C247, C249, C251, C252, C254 (all latched)
Data register		
General	408 points	D0 ~ D407
Latched	192 points	D408 ~ D599
Pointer		
P	64 points	P0 ~ P63
Index register		
E/F	2	E, F
Constant		
Decimal K	16 bit: -32768 ~ +32767	32 bit: -2147483648 ~ +2147483647
Hexadecimal H	16 bit: 0000 ~ FFFF	32 bit: 00000000 ~ FFFFFFFF
Self diagnosis/protection	I/O check, system execution timeout check, invalid command check, program check and password settings	
Monitor/debug	Program execution time display, bit / word, device settings	
Certifications	C-Tick, cULus, CE	

**Note**

<sup>①</sup> M1000, M1001, M1002, M1003, M1020, M1021, M1022, M1067, M1068, and M1161 are the special auxiliary relays (special M).

## HMIEC0806/HMIEC1612, continued

Description	Specification	
	HMIEC0806	HMIEC1612
Power supply voltage	5 Vdc, 1A (supplied by <b>HMI</b> )	5 Vdc, 1A (supplied by <b>HMI</b> )
Power consumption	0.25W	0.5W
Noise immunity RS, CS, ESD, and EFT	Frequency: 80 MHz ~ 1 GHz, 1.4 GHz ~ 2.0 GHz, test level 10 V/m Frequency: 0.15 MHz ~ 80 MHz, test level 10V ( <b>HMI</b> power port and I/O line) Air discharge $\pm 8$ kV	Frequency: 80 MHz ~ 1 GHz, 1.4 GHz ~ 2.0 GHz, test level 10 V/m Frequency: 0.15 MHz ~ 80 MHz, test level 10V ( <b>HMI</b> power port and I/O line) Air discharge $\pm 8$ kV
Surge	$\pm 1.5$ kV ( <b>HMI</b> power port), $\pm 1$ kV (I/O line) $\pm 2$ kV ( <b>HMI</b> power port)	$\pm 1.5$ kV ( <b>HMI</b> power port), $\pm 1$ kV (I/O line) $\pm 2$ kV ( <b>HMI</b> power port)
Ambient temperature/humidity	Operation: 0°C to 50°C (temperature), 10 to 90% (humidity) Storage: -40°C to 85°C (temperature), 10 to 90% (humidity)	Operation: 0°C to 50°C (temperature), 10 to 90% (humidity) Storage: -40°C to 85°C (temperature), 10 to 90% (humidity)
Vibration/shock	IEC 61131-2 Compliant 5 Hz $\leq f < 9$ Hz = Continuous: 1.75 mm / Occasional: 3.5 mm 9 Hz $\leq f \leq 150$ Hz = Continuous: 0.5g / Occasional: 1.0g X, Y, Z directions for 10 times	IEC 61131-2 Compliant 5 Hz $\leq f < 9$ Hz = Continuous: 1.75 mm / Occasional: 3.5 mm 9 Hz $\leq f \leq 150$ Hz = Continuous: 0.5g / Occasional: 1.0g X, Y, Z directions for 10 times
Weight	95.5g	116g
<b>Input Point Electric Specifications</b>		
Input type	DC (SINK or SOURCE)	DC (SINK or SOURCE)
Input voltage	24 Vdc (5mA)	24 Vdc (5mA)
Active level	Off $\rightarrow$ On, above 16 Vdc On $\rightarrow$ Off, below 14.4 Vdc	Off $\rightarrow$ On, above 16 Vdc On $\rightarrow$ Off, below 14.4 Vdc
Response time	Approx. 10 ms	Approx. 10 ms
<b>Output Point Electric Specifications</b>		
Output type	Relay-R	Relay-R
Current specifications	1.5A/1 point (5A/COM)	1.5A/1 point (5A/COM)
Voltage specifications	250 Vac, below 30 Vdc	250 Vac, below 30 Vdc
Maximum loading	75 VA (inductive), 90W (resistive)	75 VA (inductive), 90W (resistive)
Response time	Approx. 10 ms	Approx. 10 ms
Mechanical life	2-107 times (without load)	2-107 times (without load)
Electrical life	100,000 times (3A 250 Vac/30 Vdc) 6,000 times (5A 250 Vac/30 Vdc)	100,000 times (3A 250 Vac/30 Vdc) 6,000 times (5A 250 Vac/30 Vdc)

## HMIECENT

Description	Specification
Power supply voltage	5 Vdc $\pm 10\%$ , 1A (provided by <b>HMI</b> )
Interfaced supported	RJ-45 with auto MDI/MDIX
Number of ports	1
Transmission method (standard conformance)	IEEE 802.3, IEEE 802.3u
Transmission cable	Category 5e (TIA/EIA-568-A, TIA/EIA-568-B)
Transmission speed	10/100 Mbps auto detection
Ethernet protocol	ICMP, IP, TCP, UDP, DHCP, Modbus TCP
Noise immunity	ESD (IEC 61131-2, IEC 61000-4-2): 8 kV air discharge EFT (IEC 61131-2, IEC 61000-4-4): Power line: 2 kV, Communication I/O: 1 kV Damped-oscillatory wave: Power line: 1 kV, digital I/O: 1 kV RS (IEC 61131-2, IEC 61000-4-3): 26MHz ~ 1GHz, 10V/m
Certifications	C-Tick, cULus, CE

# 5.3

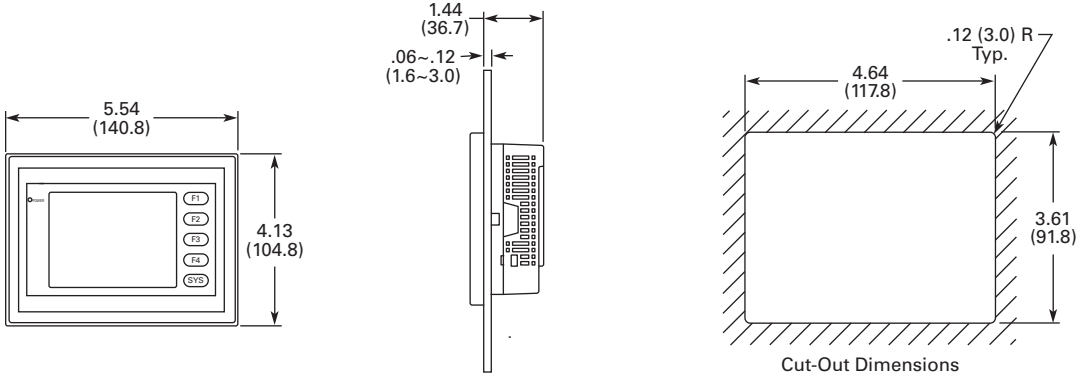
## Operator Interface Products

### HM/Operator Interface

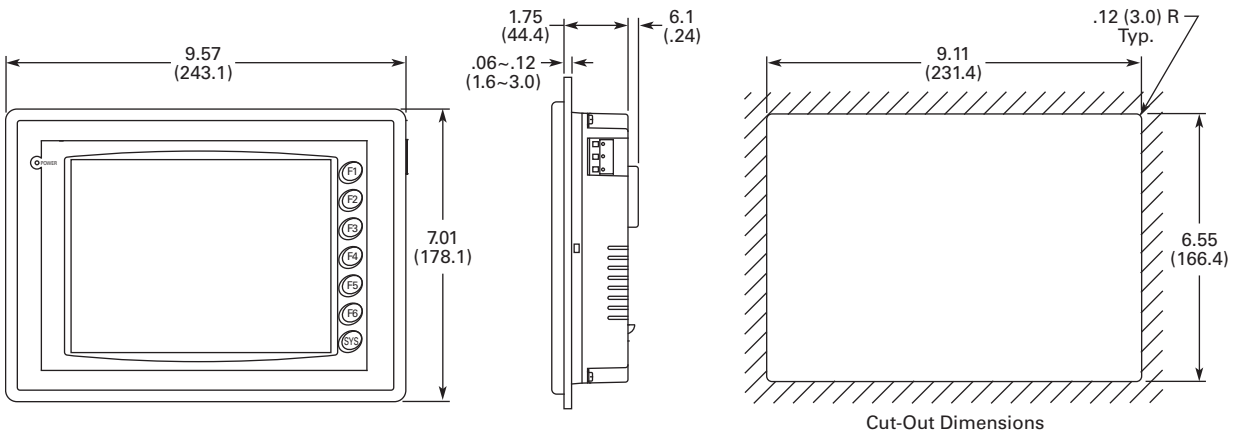
#### Dimensions

Approximate Dimensions in Inches (mm)

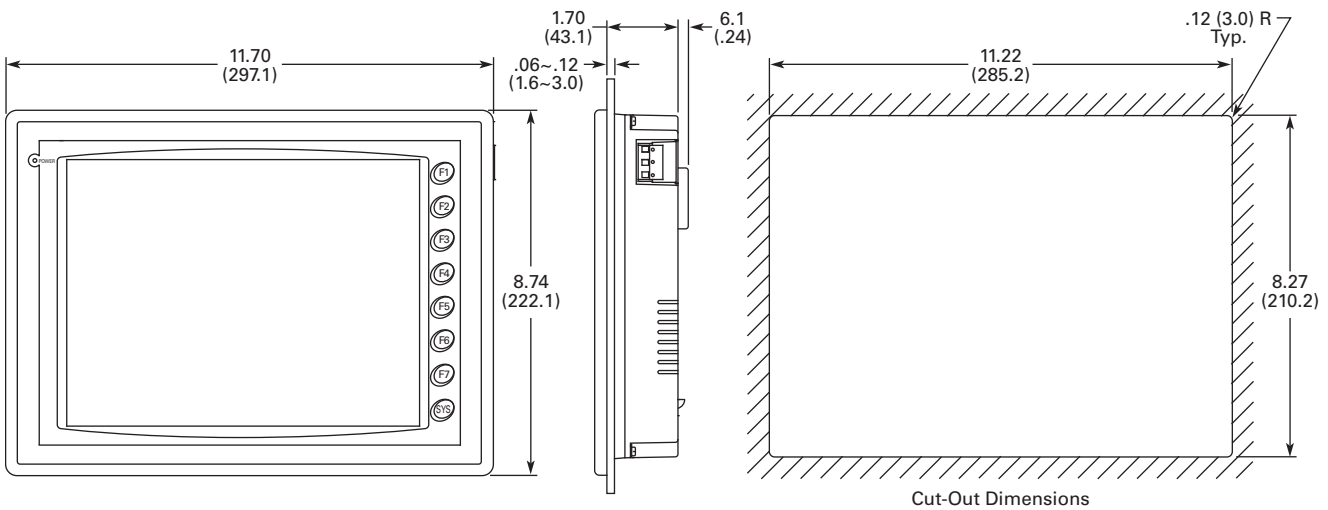
##### HMI04



##### HMI08CE

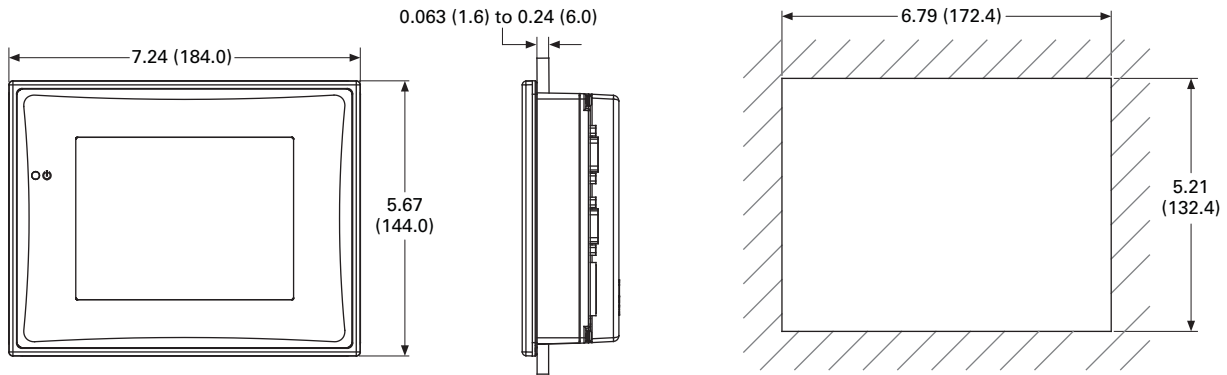


##### HMI10CE

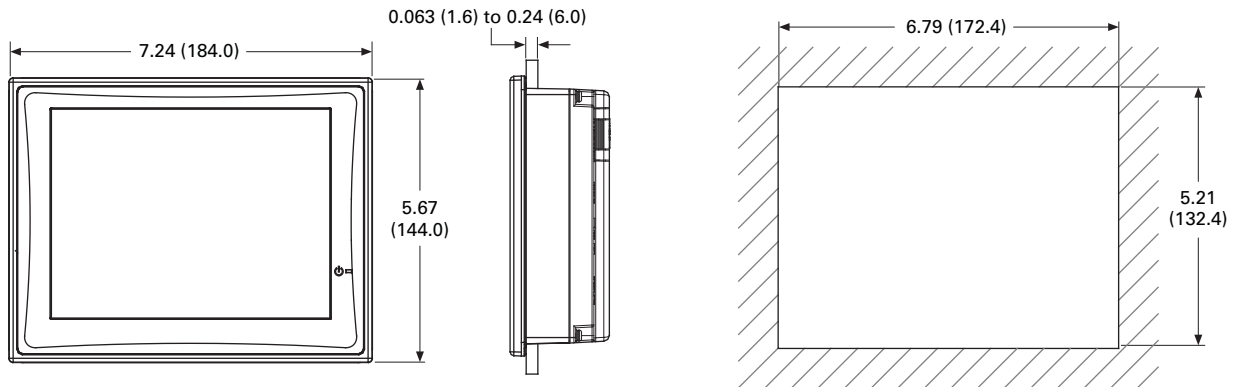


Approximate Dimensions in Inches (mm)

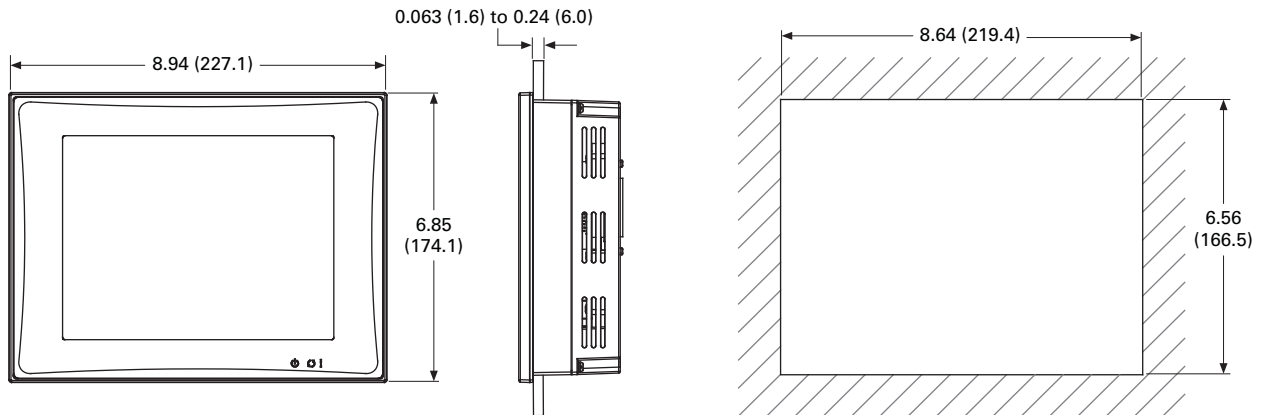
**HMIVU06**



**HMIVU07**



**HMIVU08**



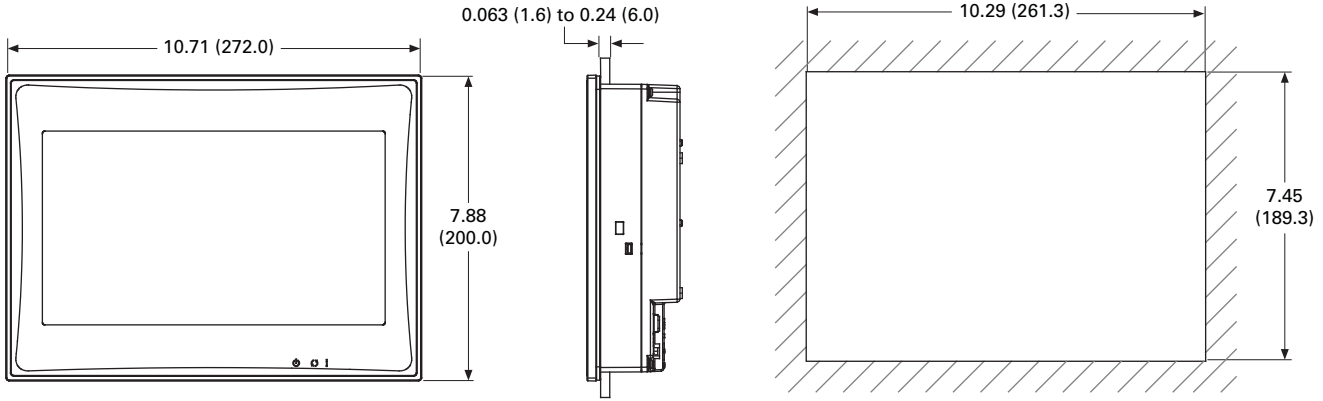
# 5.3

## Operator Interface Products

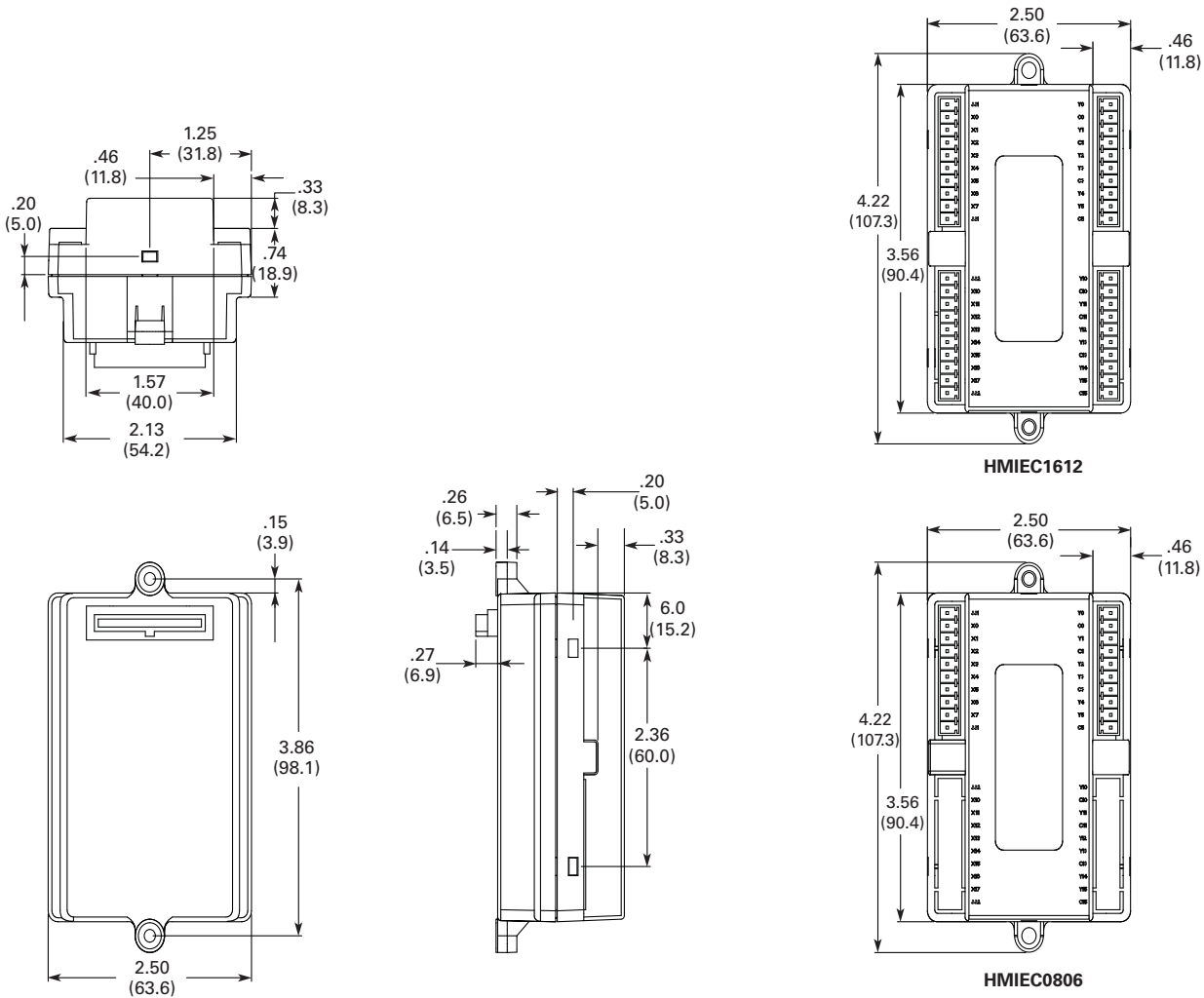
### HM/Operator Interface

Approximate Dimensions in Inches (mm)

#### HMIVU10



#### HMIEC0806 and HMIEC1612 Expansion Modules



Approximate Dimensions in Inches (mm)

**HMIECENT Ethernet Expansion Module**

