

# HDPM6000 Expanded Input Module (EIM 2.0)

## Installation Guide

Z208431-0C  
02/2022



# Legal Information

---

The Schneider Electric brand and any registered trademarks of Schneider Electric Industries SAS referred to in this guide are the sole property of Schneider Electric SAS and its subsidiaries. They may not be used for any purpose without the owner's permission, given in writing. This guide and its content are protected, within the meaning of the French intellectual property code (Code de la propriété intellectuelle français, referred to hereafter as "the Code"), under the laws of copyright covering texts, drawings and models, as well as by trademark law. You agree not to reproduce, other than for your own personal, noncommercial use as defined in the Code, all or part of this guide on any medium whatsoever without Schneider Electric's permission, given in writing. You also agree not to establish any hypertext links to this guide or its content. Schneider Electric does not grant any right or license for the personal and noncommercial use of the guide or its content, except for a non-exclusive license to consult it on an "as is" basis, at your own risk. All other rights are reserved.

Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

As standards, specifications and designs change from time to time, please ask for confirmation of the information given in this publication.

# Safety Information

## Important information



Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

### **DANGER**

**DANGER** indicates an hazardous situation which, if not avoided, **will result in** death or serious injury.

### **WARNING**

**WARNING** indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

### **CAUTION**

**CAUTION** indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

### **NOTICE**

Notice is used to address practices not related to physical injury.

## Please note

Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

## Safety Precautions

### DANGER

#### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Submetering equipment shall not be mounted within 50.8 mm (2 in) in of any live parts including primary conductors, primary terminals, primary lugs. This requirement excludes insulated cables.
- Submeters attached to the enclosure shall not contact the panel interior insulation.
- Mounting provisions shall not be attached to any live part.
- Voltage sensing and power supply connections to the primary voltage shall have overcurrent protection.
- Do not install submetering equipment in any area where breaker arc venting exhaust gasses could be re-directed as a result of submetering equipment installation.
- This product must be installed inside a suitable fire and electrical enclosure.
- Follow safe electrical work practices. See NFPA 70E in the USA, or applicable local codes.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Do not use this device for critical control or protection applications where human or equipment safety relies on the operation of the control circuit.
- Do not install this product in hazardous or classified locations.
- Read, understand and follow the instructions before installing this product.
- Turn off all power supplying equipment before working on or inside the equipment.
- Product may use multiple voltage/power sources. Disconnect all sources before servicing.
- Use a properly rated voltage sensing device to confirm that power is off.
- Do not use data from this device to confirm power is off.
- Replace all doors, covers and protective devices before powering the equipment.
- Do not exceed the product's ratings or maximum limits.
- Treat communications and I/O wiring connected to multiple devices as hazardous live until determined otherwise.

**Failure to follow these instructions will result in death or serious injury.**

If this product is used in a manner not specified by the manufacturer, the protection provided by the product may be impaired.

The installer is responsible for conformance to all applicable codes.

The safety of any system incorporating this equipment is the responsibility of the assembler of the system.

Note: See IEC 60950-1:2005, Annex W for more information on communications and I/O wiring connected to multiple devices.

Protective bonding: electrical connection of accessible conductive parts or protective screening to provide electrical continuity to the means for connection of an external protective conductor.

## Safety Precautions (cont.)

### FCC Notice

#### FCC PART 15 INFORMATION

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The user is cautioned that any changes or modifications not expressly approved by Schneider Electric could void the user's authority to operate the equipment.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [\*] est conforme à la norme NMB-003 du Canada.

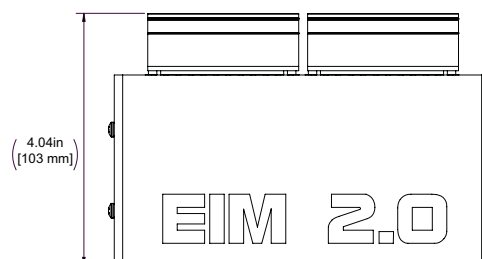
## Overview

The Expanded Input Module (EIM 2.0) is built on the HDP6000 platform technology and is available to add dry contact inputs to the connected system.

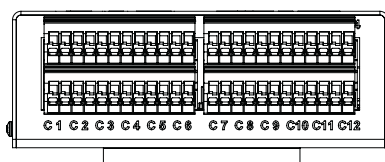
Powered by the HDP6000 platform, the EIM 2.0 provides 24 channels to monitor digital state from equipment with dry contact outputs such as fan controllers, breaker auxiliary contacts and power supplies. The HDP6000 head unit outputs the data directly to your network and the digital points can integrate with any BMS or DCIM system via Modbus TCP/IP, SNMP or BACnet/IP.

## Dimensions

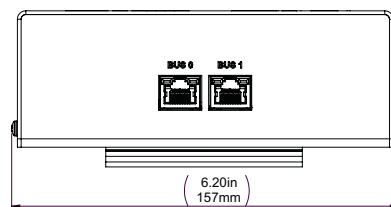
Top view



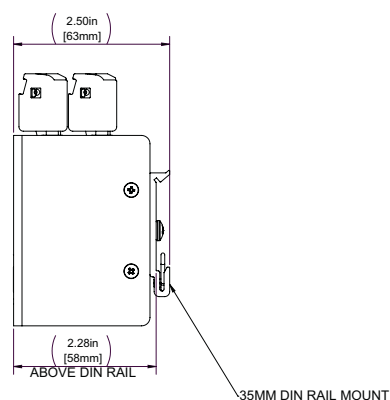
Back view



Front view



Side view



## Specifications

Electrical Characteristics		
Supply voltage	24 VDC supplied from the HDPM6000 head unit via bus port CAT6 cable	
Digital inputs	Supplied circuit voltage: 5 VDC from EIM 2.0 Maximum impedance input to common (C): 40 Ohms Maximum current: 5 mA per input	
Environmental Characteristics		
Operating temperature	-20 to 60 °C (-68 to 140 °F)	
Storage temperature	-20 to 70 °C (-68 to 158 °F)	
Relative humidity	5 to 90% non-condensing	
Max. operating altitude	2,000 m (6562 ft)	
Non-operating altitude	15,000 m (49213 ft)	
Noise level	< 65 dba at six ft. (72 in.) from the PQM	
Mounting location	Not suitable for wet locations. For indoor use only.	
Standards		
Description	General Standard	Reference Standard
Radiated emissions	IEC/EN 61326-1 :2020 (Industrial Electromagnetic Environment)	CISPR 11 AC port inc A1
Conducted emissions, AC port		
Conducted emissions, telecom port		
Electrostatic discharge		IEC/EN 61000-4-2
Radiated RF immunity		IEC/EN 61000-4-3
Fast transient bursts		IEC/EN 61000-4-4
Surge		IEC/EN 61000-4-5
Conducted immunity		IEC/EN 61000-4-6
Power frequency magnetic field		IEC/EN 61000-4-8
Voltage dips and interruptions		IEC/EN 61000-4-11

## Installation

### Mounting

The EIM 2.0 should be mounted indoors inside an enclosure or panel. Use the mounting clip on the rear of the device to attach to standard TS35 DIN rail.

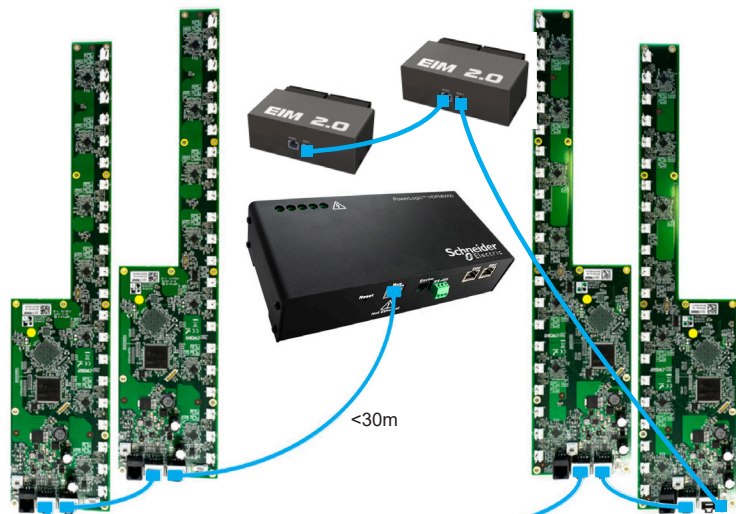
### Connecting to the HDPM6000 Bus

The EIM 2.0 receives power and communications through a CAT6 connection to the HDPM6000 bus. The module can be connected in a daisy chain format with other modules, with the first (or last) module in the daisy chain connecting to the bus port on the HDPM6000.

The HDPM6000 bus is limited to only one type of branch circuit module (HDPM6000R, HDPM6000S, HDPM6000B), but up to 10 Expanded Input Modules may be added to any of these systems (along with I/O modules).

It is not necessary to connect branch circuit monitoring modules and EIM 2.0 to the bus in a specific order. On each module it also does not matter which port (BUS 0 or BUS 1) is used for upstream (towards the HDPM6000 in the daisy chain) or downstream connections.

**Figure 1. HDPM6000 with Four HDPM6000S Modules for Branch Circuit Monitoring and Two EIM 2.0 for Digital Inputs**



Note: CAT6 cable must be <30 m (98 ft.) in length between the HDPM6000 head unit and the first module on the bus daisy chain.



## Module Addressing

Note: When installing a module, record the serial number for later use during commissioning.

Unlike the branch circuit modules (HDP6000S, HDP6000R, HDP6000B), the EIM 2.0 is not addressed using a dial on the device. Instead, a 'card' number (1-10) can be assigned, which will determine where the digital inputs will appear on both the HDP6000 web interface and in protocols such as Modbus. The card number can be assigned on the Digital Input tab of the HDP6000 web interface by typing the serial number of a connected module into the "serial nr" text box next to the desired card number (See the HDP6000 Installation Guide for details). Card allocations do not need to match the physical order in which modules are attached to the bus, and are independent from the TAP addressing assigned to branch circuit modules. As an alternative, if only one EIM 2.0 is connected to the bus, the word "SINGLE" can be populated in the card 1 serial number text box and the EIM 2.0 will be auto-detected.

**Figure 2. HDP6000 Web Interface, Digital Input Tab**

Board ID: Rack HDP6000

**Schneider Electric**

Circuit Data PQM Waveform Alarms Logging I/O **Digital Input** Environmental Demand Channel Cfg TAPs General Settings Firmware Update Log in

Card	Serial nr	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	BCF101500001	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Refresh every 10 s Refresh now

Firmware version -

Firmware file Choose File No file chosen

Upload TAP firmware


Upload firmware to all TAPs

Edit card allocations

Save card allocations

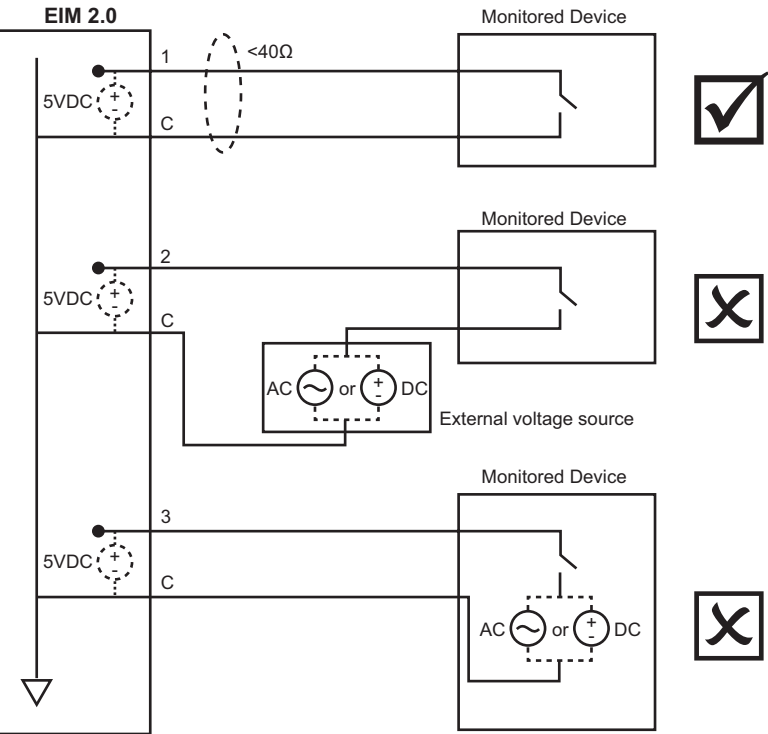
Digital Input Connections

The EIM 2.0 applies 5 VDC across each pair of inputs and is therefore suitable for use with dry contacts only.

 **WARNING**

**ELECTRIC SHOCK**

- Do not connect the EIM 2.0 to any contact output that has a voltage potential between the two terminals.
- Do not add an external voltage source in series with the contact of the device to be monitored.



**Failure to follow this instruction can result in equipment damage, injury or death.**

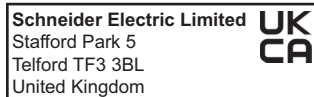
The terminal plugs on the EIM 2.0 have insulation displacement connectors that can accommodate 16 – 24 AWG wire. Insert unstripped wire into each terminal input and rotate the connector fully with a 3.5mm screwdriver. One lead of each dry contact should be connected to a numbered input on the EIM 2.0, and the other connected to an adjacent Common (C) input. The common is shared between all 24 inputs.

The resistance across each pair of wires connected to a dry contact input should not exceed 40 Ohms when the contact is closed to ensure a clear distinction between the open and closed states.

Figure 3. Digital Input Numbering (Back View)

C	13	C	14	C	15	C	16	C	17	C	18	C	19	C	20	C	21	C	22	C	23	C	24
C	1	C	2	C	3	C	4	C	5	C	6	C	7	C	8	C	9	C	10	C	11	C	12

Schneider Electric  
12345 SW Leveton Drive  
Tualatin, OR 97062 USA  
+1-503-598-4564  
[www.se.com](http://www.se.com)



© 2022 Schneider Electric. All Rights Reserved.

PowerLogic and Schneider Electric are trademarks or registered trademarks of Schneider Electric in France, the USA and other countries. Other companies' trademarks are the property of their respective owners.

As standards, specifications, and designs change from time to time, please ask for confirmation of the information given in this publication.

Z208431-0C 02/2022