ioPAC 6500 Series (65M) Backplane Modules

Backplane modules for modular programmable IIN controllers



Features and Benefits

- Tool-free hardware installation and hot-swap design for maximizing operation efficiency
- Fully modular design for maximum deployment flexibility
- 2 x 2 pin grid design to prevent erroneous installations

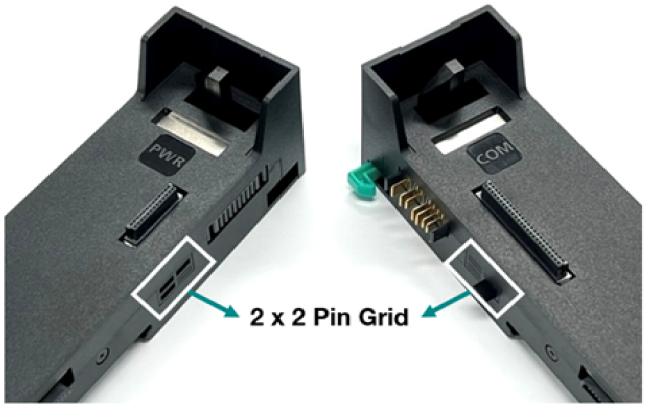
Certifications

Introduction

The ioPAC 6500 Series (also referred to as Intelligent Integrated Node or IIN) is an advanced Linux-based RTU featuring a built-in Layer-2 managed switch. Equipped with an Arm Cortex-A53 quad-core CPU, the ioPAC 6500 Series delivers robust performance.

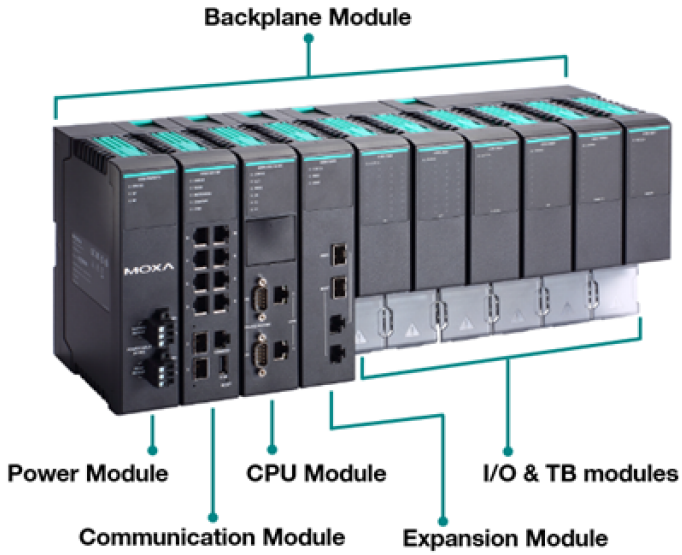
Error-proof Design—2 x 2 Pin Grid

The backplane module need to be assembled in the sequence: PWR > COM > CPU > EXP > IO. The 2 x 2 pin grid ensures that there is no error during installation and the correct assembly sequence is used.



Fully Modular Design

The ioPAC 6500 Series features a unique design that is mistake-proof and supports tool-free assembly for flexible deployment while minimizing installation efforts. The series can be divided into the components: Backplane modules, power modules, communication modules, expansion modules, CPU modules, I/O modules, and terminal-block modules.





Specifications

Power Parameters

Power Consumption	65M-BMIO02: 0.093 A @ 12 VDC 65M-BMIO04: 0.117 A @ 12 VDC

Physical Characteristics

Slots	65M-BMPW01-CT-T: 1 (for power module) 65M-BMPW02-CT-T: 2 (for power modules) 65M-BMCM01-CT-T: 1 (for communication module) 65M-BMCM02-CT-T: 2 (for communication modules) 65M-BMCPU01-CT-T: 1 (for CPU module) 65M-BMCPU02-CT-T: 2 (for CPU modules) 65M-BMIO02-CT-T: 2 (for IO modules) 65M-BMIO04-CT-T: 4 (for IO modules) 65M-BMEXP01-CT-T:1 (for expansion module) 65M-BMEXP02-CT-T:2 (for expansion module)
Housing	Plastic
Dimensions	65M-BMPW01-CT-T/BMCM01-CT-T/BMCPU01-CT-T/65M-BMEXP01-CT-T: 43 x 177 x 45.5 mm (1.69 x 6.97 x 1.79 in) 65M-BMPW02-CT-T/BMCM02-CT-T/BMCPU02-CT-T/BMIO02-CT-T/65M-BMEXP02-CT-T: 86 x 177 x 45.5 mm (3.39 x 6.97 x 1.79 in) 65M-BMIO04-CT-T: 172 x 177 x 45.5 mm (6.77 x 6.97 x 1.79 in)
Weight	65M-BMPW01-CT-T: 162 g (0.36 lb) 65M-BMPW02-CT-T: 320 g (0.71 lb) 65M-BMCM01-CT-T: 169 g (0.37 lb) 65M-BMCM02-CT-T: 330 g (0.73 lb) 65M-BMCPU01-CT-T: 170 g (0.37 lb) 65M-BMCPU02-CT-T: 325 g (0.72 lb) 65M-BMIO02-CT-T: 205 g (0.45 lb) 65M-BMIO04-CT-T: 395 g (0.87 lb) 65M-BMEXP01-CT-T: 173 g (0.38 lb) 65M-BMEXP02-CT-T: 322 g (0.71 lb)
Installation	DIN-rail mounting Rack mounting (with optional kit)

Environmental Limits

Operating Temperature	-40 to 75°C (-40 to 167°F) Note: Proper airflow is required in an environment with temperature > 65°C
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Altitude	2000 m[1]

Standards and Certifications

EMC	EN 55032/35 EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: (DC) 1 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: (DC) 0.5 kV L-N, 1 kV L/N-PE; Signal: 1 kV; IO: 0.5 kV IEC 61000-4-6 CS: Power: 10 V; Signal: 10 Vrms IEC 61000-4-8 PFMF: 30 A/m
Hazardous Locations	ATEX Zone 2 Class I Division 2 IECEx
Safety	UL 61010-1 UL 61010-2-201
Shock	IEC 60068-2-27 Half sine wave; acceleration: 15 g; time: 11 ms
Vibration	IEC 60068-2-6 DIN-rail mounted: 7 mm peak-peak (p-p) (2 to 8.42 Hz), 1 g (8.42 to 150 Hz) Rack mounted (with optional kit): 7 mm peak-peak (p-p) (2 to 8.42 Hz), 0.5 g (8.42 to 150 Hz)
Package Vibration Test	ISTA 1A
Package Drop Test	ISTA 1A

MTBF

Time	65M-BMPW01-CT-T: 1,130,092,735 hrs 65M-BMPW02-CT-T: 1,382,748,219 hrs 65M-BMCM01-CT-T: 1,856,744,727 hrs 65M-BMCM02-CT-T: 1,856,744,727 hrs 65M-BMCPU01-CT-T: 5,032,783,357 hrs 65M-BMCPU02-CT-T: 3,554,206,267 hrs 65M-BMIO02-CT-T: 6,140,939 hrs 65M-BMIO04-CT-T: 6,124,471 hrs 65M-BMEXP01-CT-T: 1,856,744,727 hrs 65M-BMEXP02-CT-T: 1,856,744,727 hrs
Standards	Telcordia Standard SR-332

Warranty

Warranty Period	5 years
Details	See www.moxa.com/warranty

1. Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

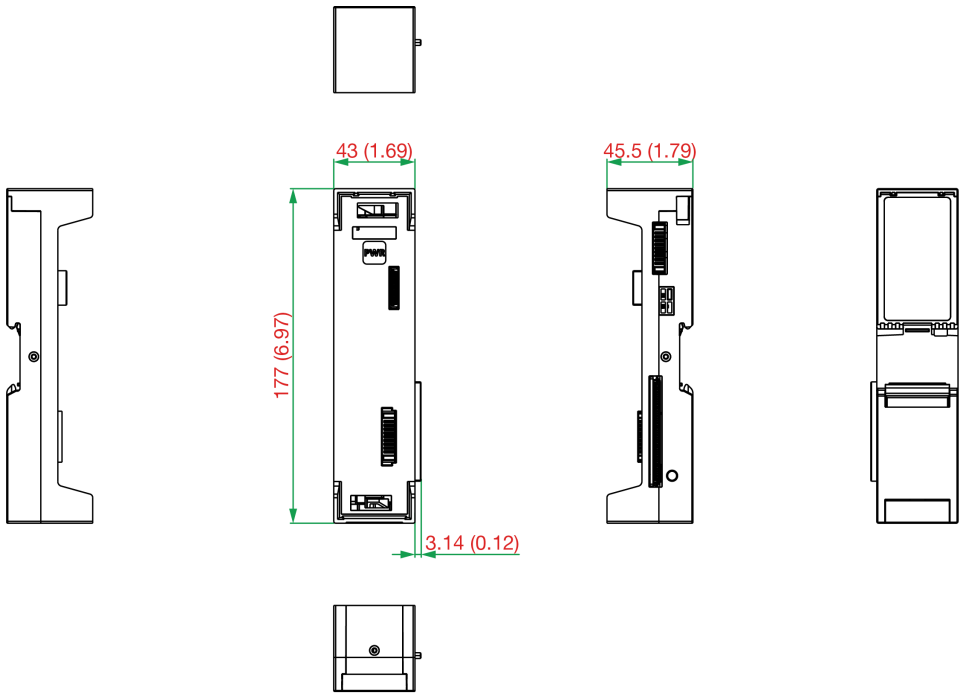
Package Contents

Device	1 x ioPAC 6500 Series (65M) Backplane Module
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

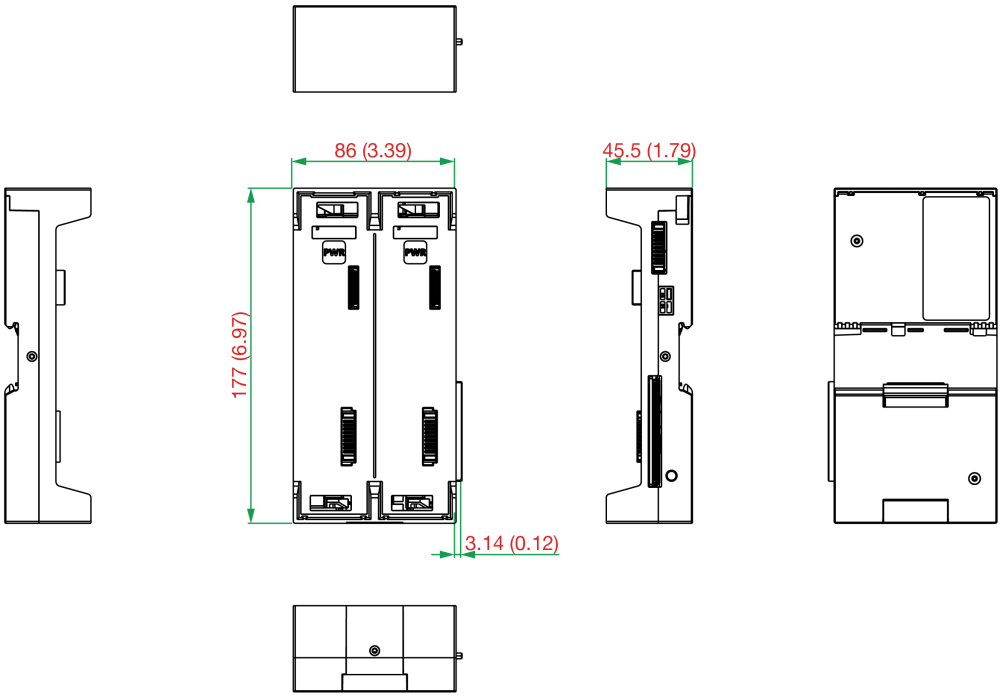
65M-BMPW01-CT-T

Unit: mm (inch)



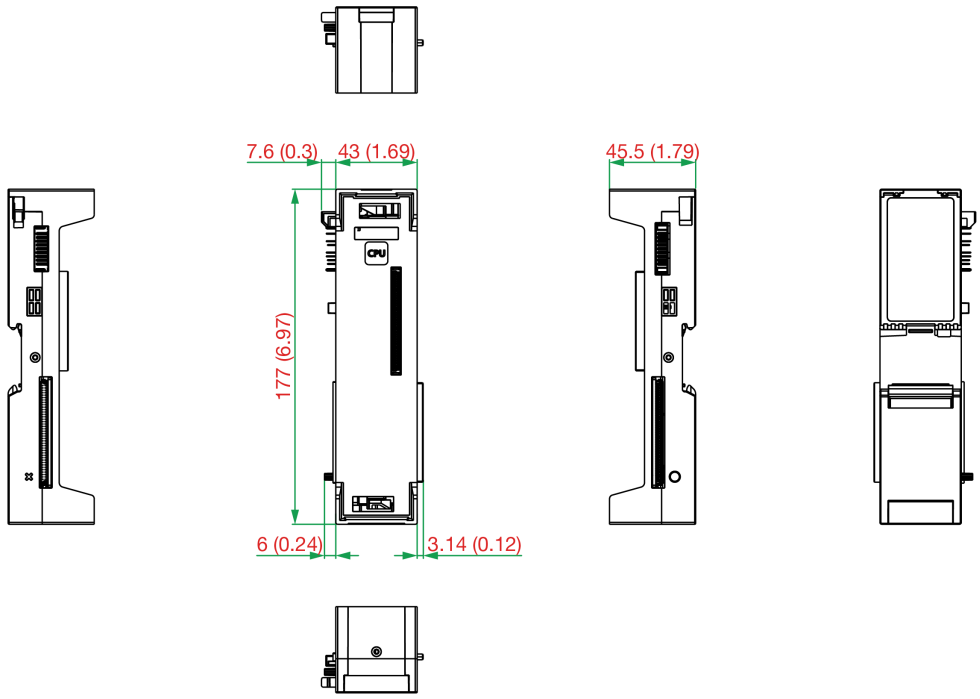
65M-BMPW02-CT-T

Unit: mm (inch)



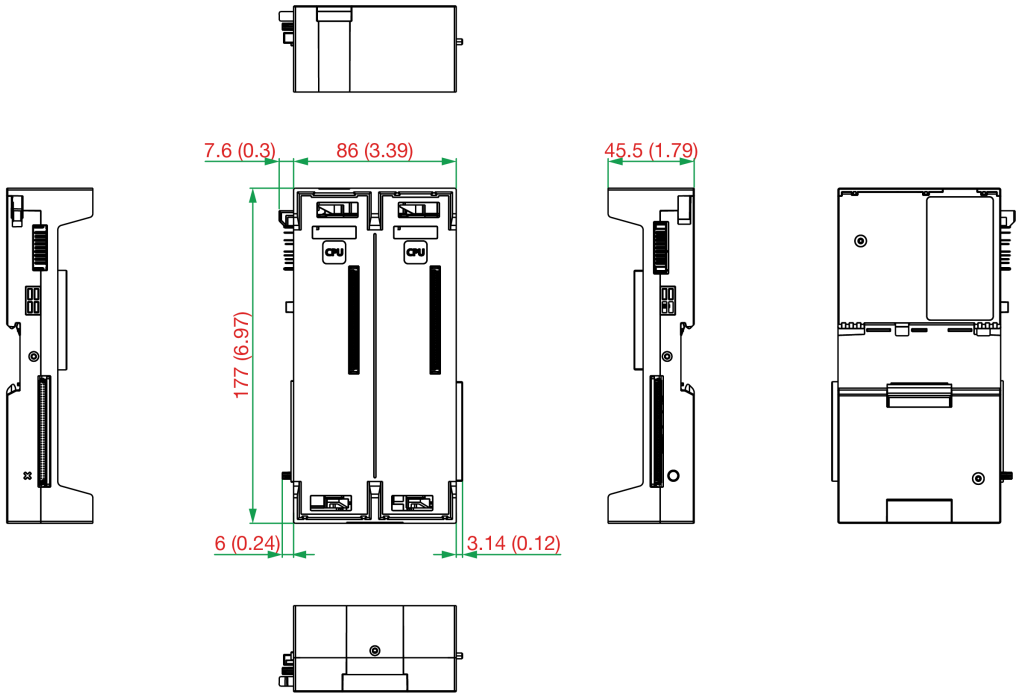
65M-BMCPU01-CT-T

Unit: mm (inch)



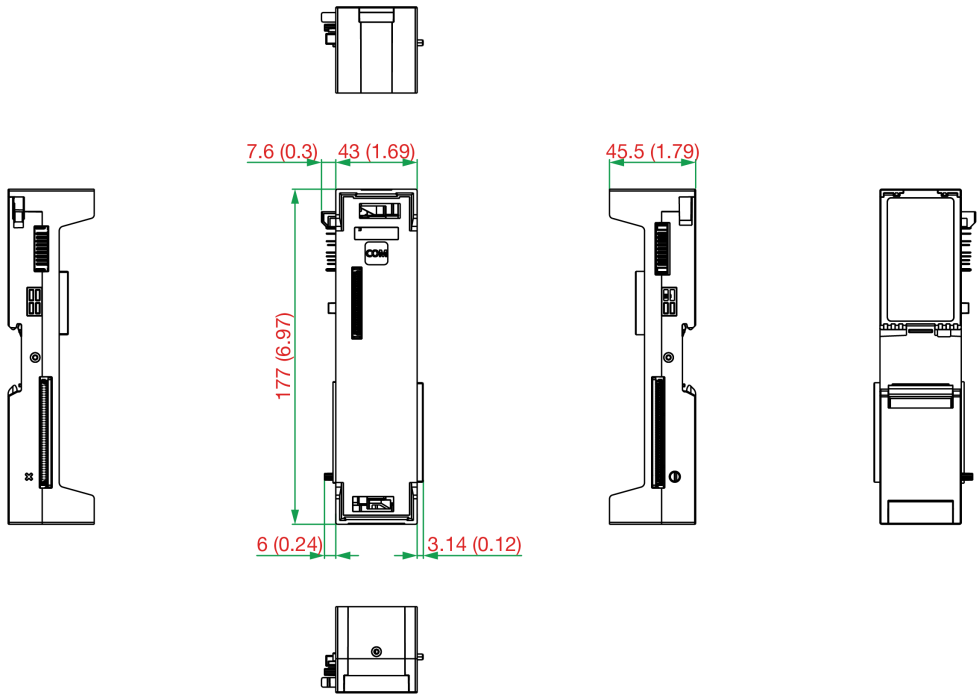
65M-BMCPU02-CT-T

Unit: mm (inch)



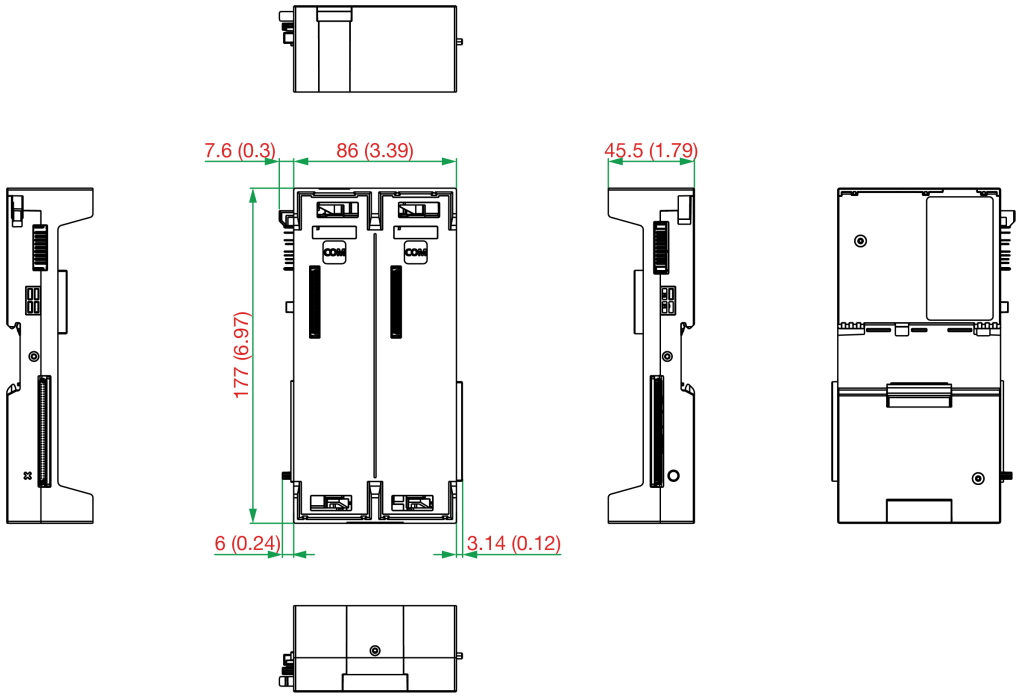
65M-BMCM01-CT-T

Unit: mm (inch)



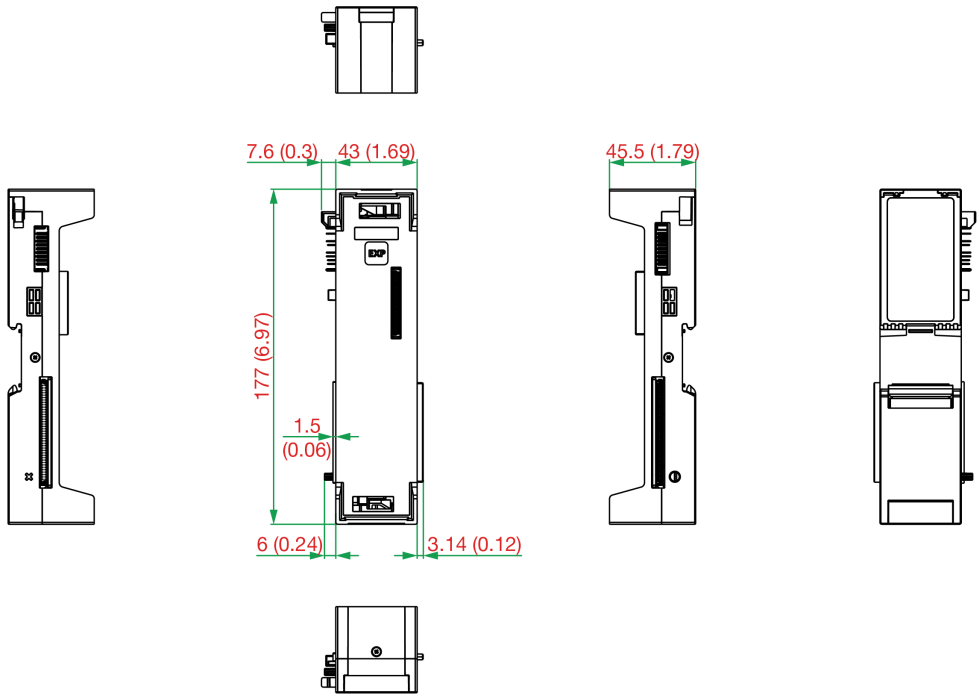
65M-BMCM02-CT-T

Unit: mm (inch)



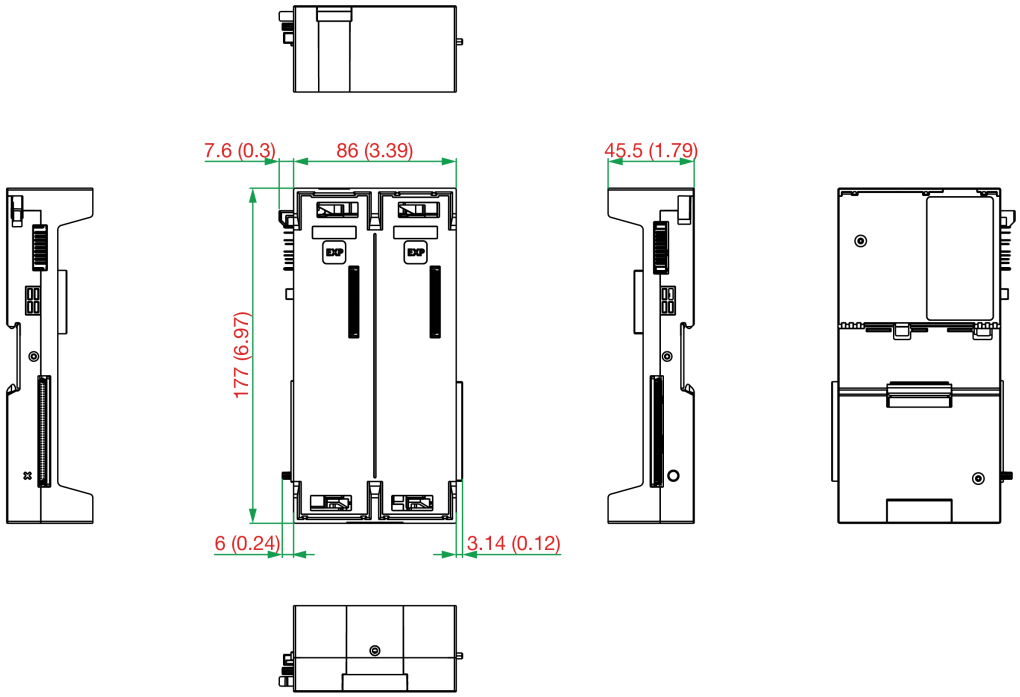
65M-BMEXP01-CT-T

Unit: mm (inch)



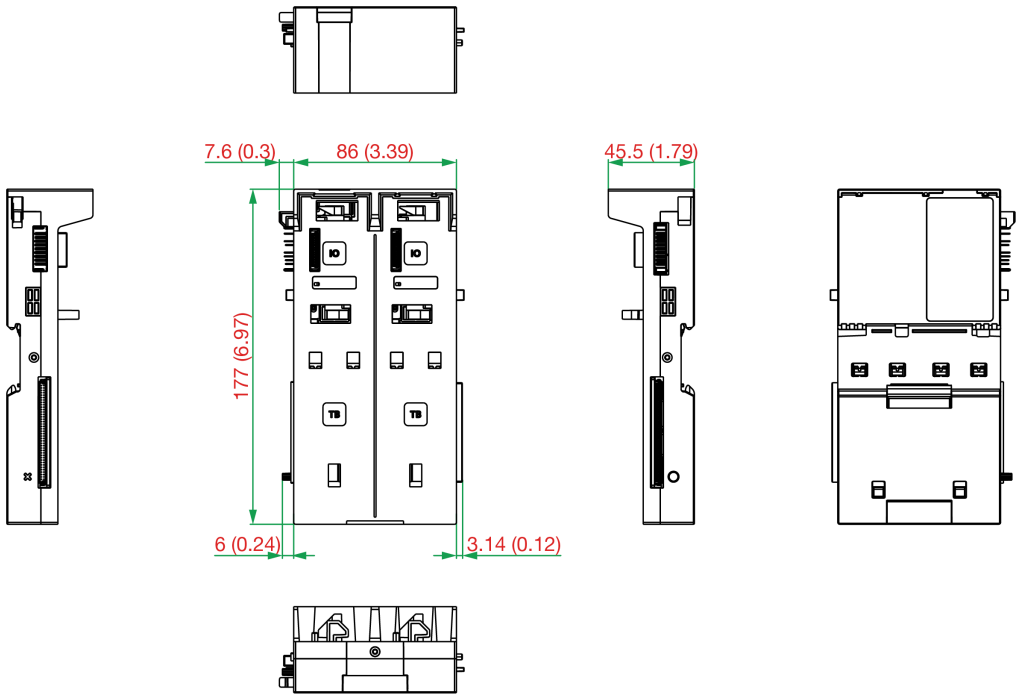
65M-BMEXP02-CT-T

Unit: mm (inch)



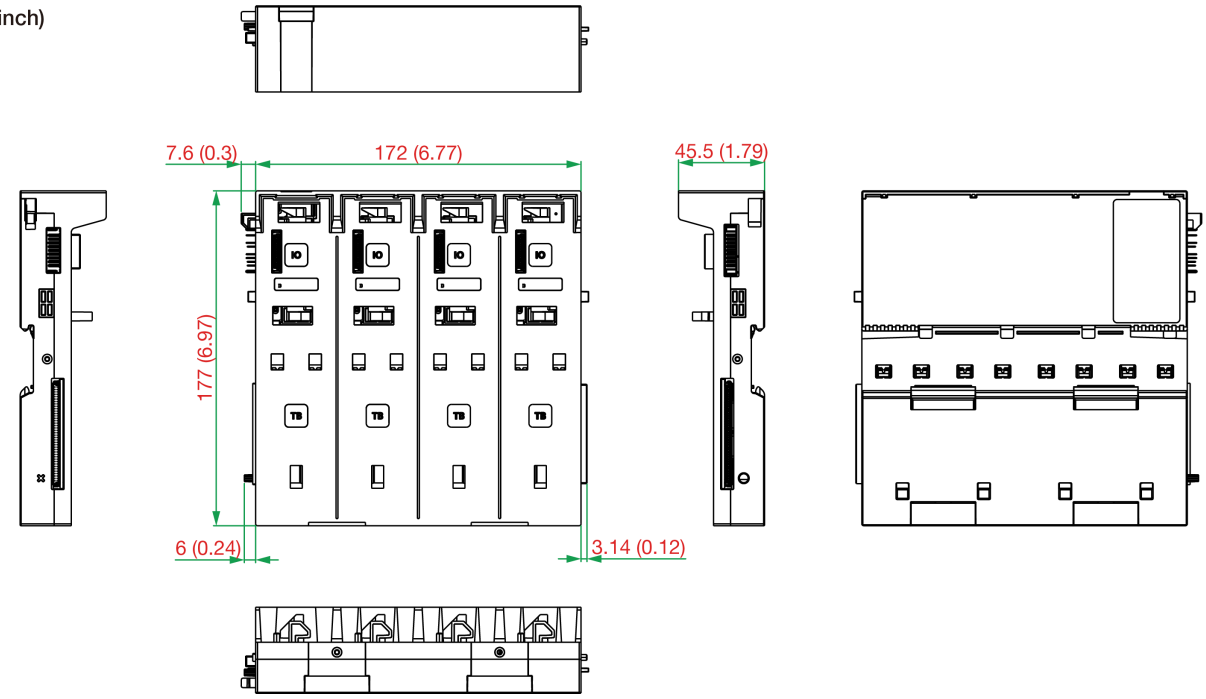
65M-BMIO02-CT-T

Unit: mm (inch)



65M-BMIO04-CT-T

Unit: mm (inch)



Ordering Information

Model Name	Slots	Module Supported	Conformal Coating	Operating Temperature
65M-BMPW01-CT-T	1	Power	Yes	-40 to 75°C
65M-BMPW02-CT-T	2	Power	Yes	-40 to 75°C
65M-BMCM01-CT-T	1	Communication	Yes	-40 to 75°C
65M-BMCM02-CT-T	2	Communication	Yes	-40 to 75°C
65M-BMCPU01-CT-T	1	CPU	Yes	-40 to 75°C
65M-BMCPU02-CT-T	2	CPU	Yes	-40 to 75°C

Model Name	Slots	Module Supported	Conformal Coating	Operating Temperature
65M-BMIO02-CT-T	2	IO	Yes	-40 to 75°C
65M-BMIO04-CT-T	4	IO	Yes	-40 to 75°C
65M-BMEXP01-CT-T	1	Expansion	Yes	-40 to 75°C
65M-BMEXP02-CT-T	2	Expansion	Yes	-40 to 75°C

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