Quick Installation Guide

GoodLinker IIoT Gateway
BCS-MX

Edition 3.0.0, December 2025

BCS-MX Edge Computer

Quad-core fanless DIN-rail industrial IIoT gateway

Features and Benefits

- ARMv8 Cortex-A53 64-bit SoC @ 1.2 GHz
- Ethernet connectivity for OT data acquisition
- Supports Modbus ASCII/RTU/TCP and OPC UA Server
- Tag-based register mapping for structured industrial telemetry
- RS-485 interface and modular I/O expansion via Dinkle Bus
- DC power input supported through barrel connector or terminal block
- Secure MQTT over TLS with certificate management and watchdog
- 0°C to 70°C commercial operating temperature range
- Built-in diagnostic UI for configuration, communication testing, and data verification
- Tested with AWS IoT Device Advisor for secure connectivity with AWS IoT Core

Overview

The BCS-MX is a DIN-rail-mountable, fanless industrial data acquisition gateway powered by a Broadcom quad-core ARM processor. It is purpose-built for OT/IIoT integration and supports Modbus ASCII/RTU/TCP and OPC UA Server for connecting PLCs, power meters, industrial sensors, and utility systems.

The device provides tag-based register mapping to define communication addresses, data types, and polling intervals, forming unified and structured industrial telemetry. It supports MQTT over TLS with certificate management and has been tested using AWS IoT Device Advisor for secure connectivity with AWS IoT Core.

For on-site deployment, the BCS-MX includes a built-in diagnostic interface for device configuration, protocol validation, and live data verification. Typical applications include smart factory upgrades, intelligent buildings, ESG data collection, quality traceability, predictive maintenance, and standardized data panels for energy or machinery measurement.

Package Checklist

Before installing the BCS-MX, verify that the package contains the following items:

- BCS-MX IIoT Gateway
- Quick Installation Guide

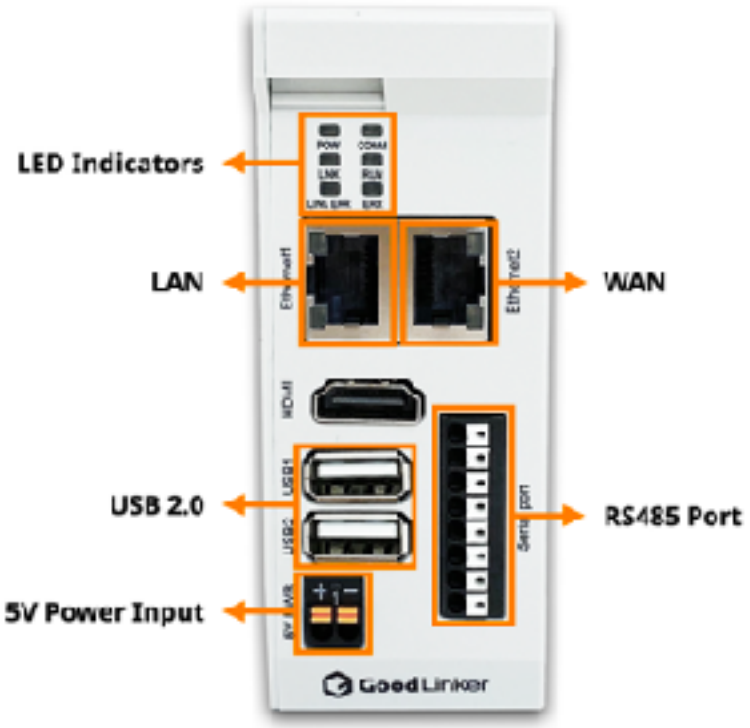
Please notify your sales representative if any of the above items are missing or damaged.

Optional Accessories

- Power Supply DC24V
- Power Supply DC5V
- Dinkle Bus
-

Appearance

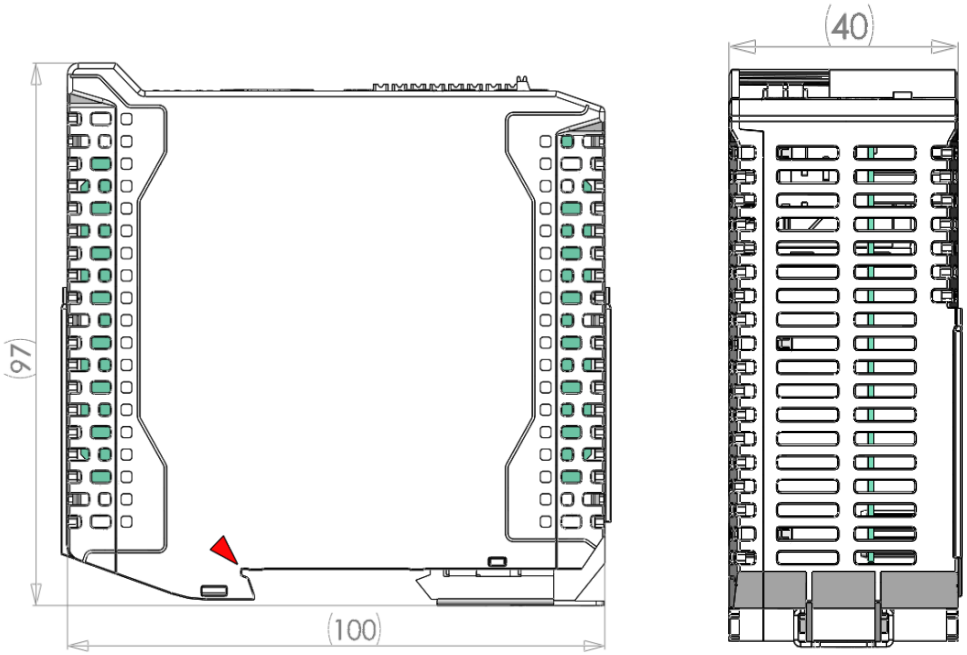
BCM-MX



Dimensions

BCM-MX

Unit: mm



Specifications

Computer

CPU	Cortex-A53, 64-bit SoC @ 1.2GHz
GPU	VideoCore IV with OpenGL ES 1.1, 2.0
RAM	ELPIDA B8132B4PB-8D-F 1GB LPDDR2
Memory	32GB eMMC Flash Memory
OS	ArchLinux (Linux Kernel: 4.19.xx)

Computer Interface

Display	1 x HDMI
USB	2 x USB 2.0
Ethernet	1 x 100 Mbps Port (SMSC LAN9514-JZX)
Indicator	6 x LED for System Status
COMM	1 x RS-485 via Dinkle Bus

Ethernet Interface

Ethernet Ports	Auto-sensing 10/100 Mbps ports (RJ45)

Serial Interface

Serial Ports	1 x RS-485
Data Bits	7, 8
Parity	Even, Odd, None
Stop Bits	1, 2
Baud Rate	1.2K, 2.4K, 4.8K, 9.6K, 14.4K, 19.2K, 38.4K, 57.6K, 115.2K

Serial Signals

RS485-2w	Data+, Data-, GND

Physical Characteristics

Housing	Polycarbonate
Dimensions (W x D x H)	40 x 100 x 90.5 mm
Weight	180 g
Installation	DIN-rail Mounting
Wire Range	0.2 mm^2 ~ 1.5 mm^2 / AWS 28 ~16
Terminals	DN00510D, DN00710D

Power Supply

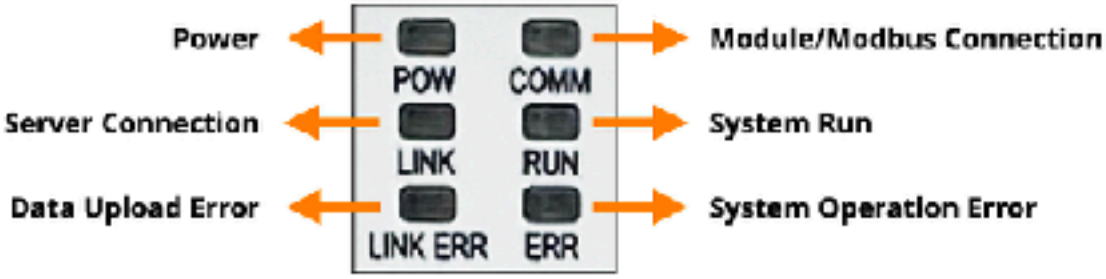
Input Voltage	5V
Input Current	1A
Power Consumption	5W

Mechanical & Environmental

Operating Temperature	0°C…+50°C (32°F…+122°F)
Storage Temperature	-20°C…+75°C(-4°F…+167°F)
Storage Humidity	RH 95%, Non-condensing

LED Indicators

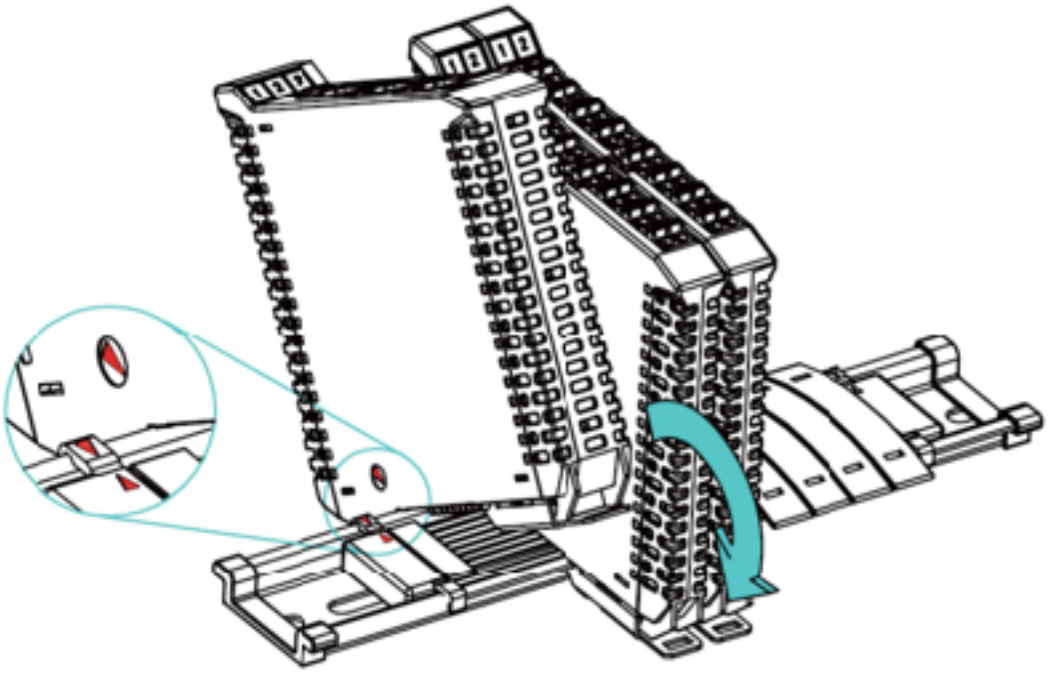
POW	Power
COMM	Module/Modbus Connection
LINK	Server Connection
RUN	System Run
LINK ERR	Data Upload Error
ERR	System Operation Error



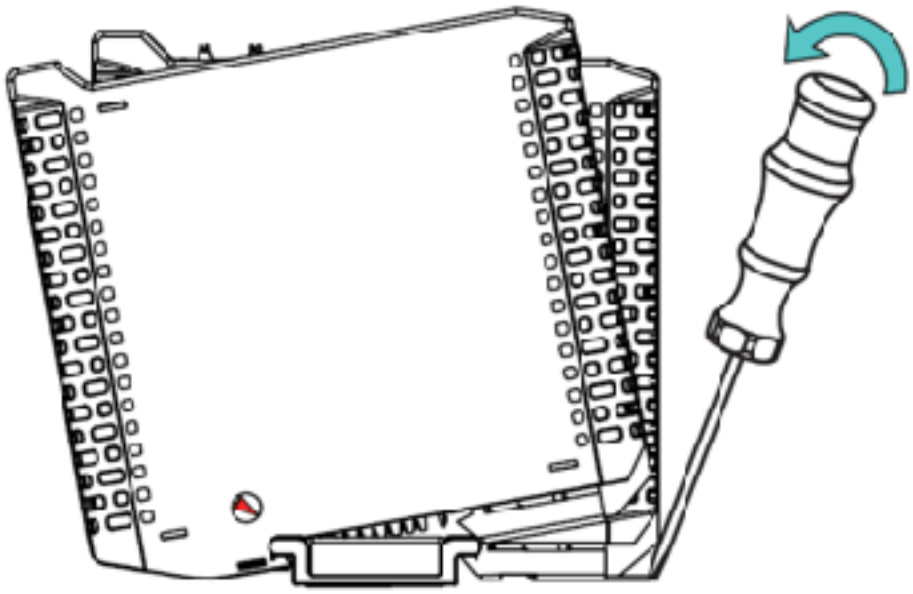
Installation and Removal

Installation:

NOTE: Please confirm whether the track and the module's red arrow are in the same direction during installation.



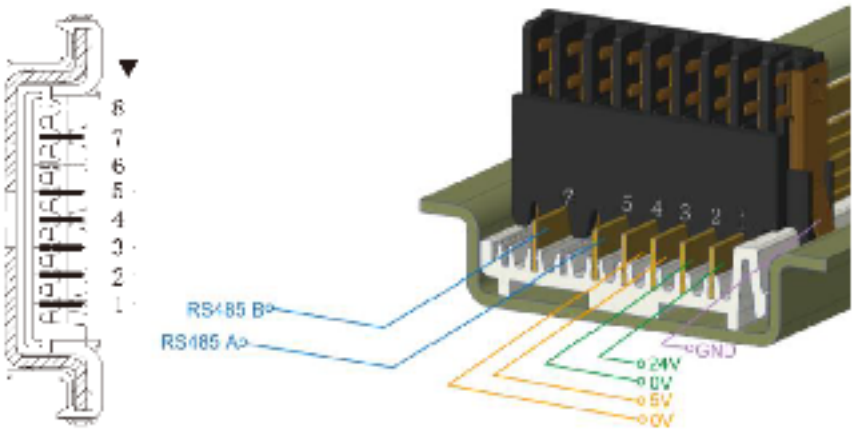
Removal:



Dinkle Bus:

Tracks 1 to 4 rails for power supply(24V、5V)

Tracks 5 to 7 rails for communication



Dinkle Bus Definition:

8	—	4	0V
7	RS485B	3	5V
6	—	2	0V
5	RS485A	1	24V

The GoodLinker Cloud of War Room Platform

The BCS-MX integrates with the GoodLinker “Cloud of War Room” IIoT service to support industrial equipment monitoring, structured telemetry visualization, and remote operational supervision. Through this cloud service, data collected by the gateway can be synchronized to dashboards for production status display, equipment condition monitoring, ESG indicator review, and anomaly notifications.

Users may view real-time telemetry, trend charts, and machine status via the web console or mobile app. This service helps transform traditional equipment into IoT-ready assets by providing digital visibility and standardized data interfaces on top of existing industrial infrastructure.

Web Dashboard: https://warroom.goodlinker.io/

Mobile App – iOS: https://apps.apple.com/tw/app/goodlinker/id1476501530?l=en

Mobile App – Android: https://play.google.com/store/apps/details?id=com.goodlinker.mobile

History of Specification

Edition	Date / Released	Changed
1.0.0	2019/11/20	New cerate
2.0.0	2020/11/16	New eddition
3.0.0	2025/12/05	New eddition

If any performance specifications, firmware behavior, interface configurations, or functional characteristics of this device are modified, this document must be updated in real time to ensure all information remains accurate and aligned with the current product release.

Manufacturer Information

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Official Website: https://www.goodlinker.io/

Product Information: https://www.goodlinker.io/product/BCS-MX

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