



DENKI SEIGYO

DSWM-S4G-RS485



4G SIM-Based Wireless RS-485 Communication Module

Category: Industrial Wireless Module / 4G DTU / RS-485 Communication

Manufacturer: Denki Seigyo

Product Overview

The **Denki Seigyo DSWM-S4G-RS485** is a compact industrial **4G CAT.1 wireless communication module with RS-485 interface**, designed to connect serial industrial equipment to remote servers and IoT platforms through cellular networks.

The module provides **bidirectional transparent transmission** between an RS-485 device and a remote network server, allowing existing PLCs, meters, controllers, sensors and automation equipment to communicate over a 4G network without requiring a local Ethernet connection.

Supporting **TCP, UDP, MQTT, HTTP and DNS protocols**, the DSWM-S4G-RS485 is suitable for remote monitoring, industrial IoT, machine data acquisition, energy monitoring and distributed automation applications.

Model Code Structure

DSWM-S4G-RS485

Code	Description
DSWM	Denki Seigyo Wireless Module
S	SIM / Cellular Communication
4G	4G CAT.1 Cellular Network
RS485	RS-485 Serial Interface

Full Model Description

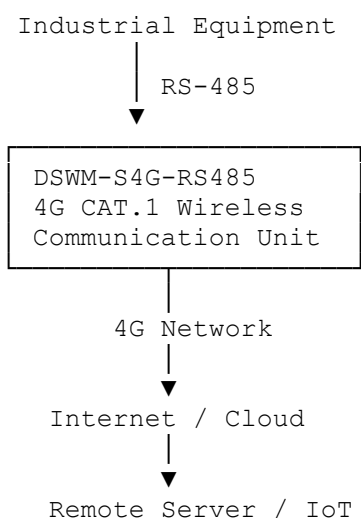
Denki Seigyo 4G SIM-Based Wireless Module with RS-485 Industrial Serial Input/Output



Key Features

- 4G CAT.1 cellular communication
- SIM-based wireless connectivity
- RS-485 industrial serial interface
- Bidirectional transparent data transmission
- TCP / UDP communication
- MQTT support
- HTTP support
- DNS support
- Wide RS-485 baud-rate range
- External SMA antenna connection
- DIN-rail mounting
- Compact industrial housing
- Wide 8–28 VDC supply range
- Wide operating temperature range
- PWR, network, data and server-status indicators
- Conformal coating for improved environmental resistance
- Suitable for remote industrial IoT applications

Communication Architecture



The module is intended for transparent two-way communication between serial equipment and network servers.

Wireless Communication

Parameter	Specification
Cellular Technology	4G CAT.1
Network Type	LTE
SIM	SIM Card
Communication Mode	Cellular Data
RF Connector	SMA-K
Antenna Type	External 4G Antenna
Data Transmission	Bidirectional Transparent Transmission



Supported LTE Bands

The LTE bands are:

Network	Supported Bands
LTE-FDD	B1 / B3 / B5 / B7 / B8 / B20 / B28
LTE-TDD	B38 / B40 / B41

Note: Cellular-band availability can vary by regional Denki Seigyo variant and network operator.

Network Protocols

Protocol	Support
TCP	Supported
UDP	Supported
MQTT	Supported
HTTP	Supported
DNS	Supported

This product explicitly lists TCP, UDP, MQTT, HTTP and DNS support.

RS-485 Interface

Parameter	Specification
Interface	RS-485
Connector	Spring Terminal
Terminal Pitch	2.54 mm
Baud Rate	1200–230400 bps
Default Baud Rate	115200 bps
Data Bits	8
Stop Bits	1 / 2
Default Stop Bit	1
Parity	None / Odd / Even
Default Parity	None



Electrical Specifications

Parameter	Specification
Supply Voltage	8–28 VDC
Recommended Supply	24 VDC Industrial Supply
Communication Interface	RS-485
RF Interface	SMA-K
SIM Interface	SIM Card
Power Indicator	PWR LED
Network Indicator	STATE LED
Data Indicator	DATA LED
Server Link Indicator	LINK LED

LED Status Indication

Indicator	Status	Description
PWR	ON	Power is supplied
STATE	OFF	Searching for SIM / network
STATE	Flashing	SIM detected and network attachment in progress
STATE	ON	Successfully attached to network
DATA	Flashing	RS-485 serial data transmission/reception
LINK	ON	Connected successfully to server
LINK	OFF	Server connection not established

Mechanical Specifications

Parameter	Specification
Dimensions	80 × 28 × 27 mm
Weight	Approx. 40 g
Mounting	DIN Rail / Positioning Hole
RF Connector	SMA-K
RS-485 Connection	Spring Terminal
Housing	Compact Industrial Enclosure
PCB Protection	Conformal Coating



Environmental Specifications

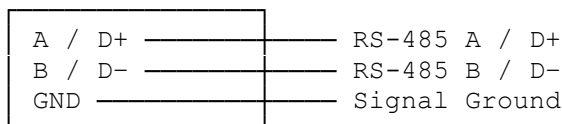
Parameter	Specification
Operating Temperature	−40°C to +85°C
Environmental Protection	Conformal Coating
Anti-Moisture	Yes
Anti-Mildew	Yes
Salt-Spray Resistance	Yes

RS-485 Terminal Connection

Typical Industrial Connection

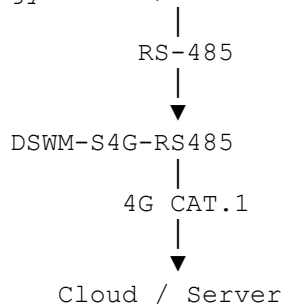
DSWM-S4G-RS485

RS-485



Typical System

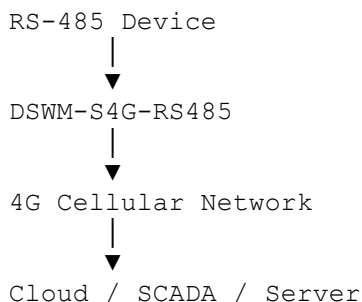
PLC / Energy Meter / Sensor / Controller



Data Transmission

The DSWM-S4G-RS485 is intended to provide **transparent serial networking**, allowing an RS-485 device to exchange data with a remote server without requiring application-specific conversion of the serial data stream.

Typical Applications





Typical Connected Devices

Device	Interface
PLC	RS-485
HMI / Controller	RS-485
Energy Meter	RS-485
Temperature Controller	RS-485
Power Meter	RS-485
Industrial Sensor	RS-485
VFD / Drive	RS-485
Remote I/O	RS-485
Data Logger	RS-485
Automation Controller	RS-485

Advantages

4G CAT.1 Connectivity

Provides cellular connectivity for industrial equipment where Ethernet or Wi-Fi may not be available.

RS-485 Industrial Interface

Allows integration with existing Modbus/serial industrial equipment.

Transparent Data Transmission

Reduces the need for changes to existing serial-device applications.

Multiple Network Protocols

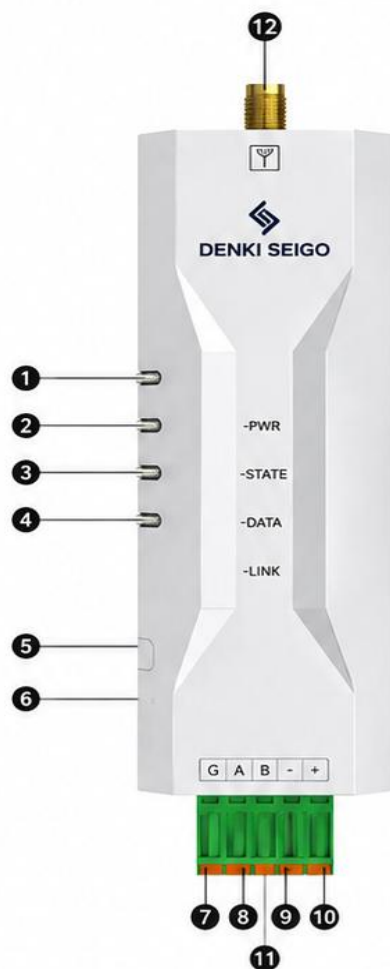
TCP, UDP, MQTT and HTTP support enables integration with different IoT and server architectures.

Industrial Installation

Compact dimensions and DIN-rail/positioning-hole mounting simplify installation inside control panels.

Wide Temperature Range

The Device is specified for -40°C to $+85^{\circ}\text{C}$, making it suitable for demanding industrial installations.



Serial Number	Name	Function	Illustrate
1	PWR	Power indicator light	Lights up when power is on
2	STATE	Network access status indicator light	Off: The device is powered on and searching for the SIM card.
			Flashing: The device has detected the correct SIM card and is attaching to the network.
			Always lit: Device successfully attached to network.
3	DATA	Data transceiver indicator	Flashing when sending/receiving data.
4	LINK	Link indicator light	Constantly lit: Any socket connection to the server is successful.
			Off: The device failed to connect to the server.
5	SIM card slot	SIM card slot	Nano SIM card slot, chip facing upwards, notch facing inwards.
6	Reload	button	Press and hold for 5–6 seconds to restore factory settings. All indicator lights will illuminate successfully.
			Press and hold the button to power on and enter upgrade mode, all indicator lights will flash.
7	GND	RS485 communication port	Connect to the converter shield or signal ground.
8	RS485-A		2.54mm spring terminal, for connection to converter A.
9	RS485-B		2.54mm spring terminal, for connection to converter B.
10	V-	Power interface	DC 8–28V power input port, 2.54mm spring terminal
11	V+		
12	ON	Antenna interface	SMA-K, external thread, internal bore, characteristic impedance 50Ω



Ordering Information

Model	Communication	Interface	Supply	Mounting
DSWM-S4G-RS485	4G CAT.1	RS-485	8–28 VDC	DIN Rail / Panel

Applications

- Remote PLC monitoring
- Industrial IoT
- Energy meter communication
- Remote machine monitoring
- SCADA systems
- Water and wastewater monitoring
- Solar power monitoring
- Pump monitoring
- Generator monitoring
- HVAC monitoring
- Factory automation
- Remote data acquisition
- Smart energy systems
- Distributed industrial equipment
- Remote equipment diagnostics

Product Summary

The **Denki Seigyo DSWM-S4G-RS485** is an industrial **4G CAT.1 SIM-based wireless communication module** designed to connect RS-485 equipment to remote servers and IoT platforms.

With **TCP, UDP, MQTT and HTTP support, RS-485 communication, external SMA antenna, wide 8–28 VDC supply, DIN-rail mounting and –40°C to +85°C operation**, the DSWM-S4G-RS485 provides a compact solution for remote industrial data communication and machine connectivity.