RFID System (Conforms to SEMI standard, Electromagnetic Inductive 134 kHz)

V640 Series

CSM_V640_Series_DS_E_11_2

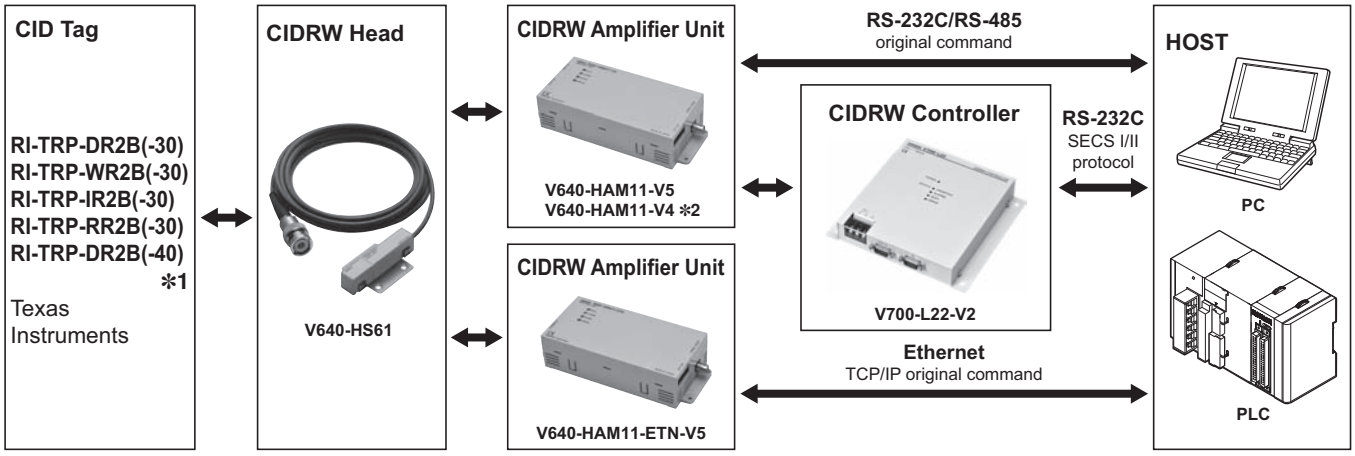
Line-up Ethernet I/F model newly. RFID system for Semiconductor applications, supports reading and writing TI (Texas Instruments) transponders

- Conforms to RFID wireless interface standards (ISO/IEC 18000-2)
- Supports SEMI standards (E4, E5, E99, E15.1, E144-0312)
- Supports SECS commands (when using V700-L22-V2)
- Embedded Web browser function provides easy configuration and read/write testing (Ethernet type only)
- Enhanced functions, TEST Mode / Detecting for CIDRW Head status
- Certified as radio by many countries: the USA's FCC, EU R&TTE directive, Canada's IC, China, South Korea, Taiwan, Singapore, and Israel.

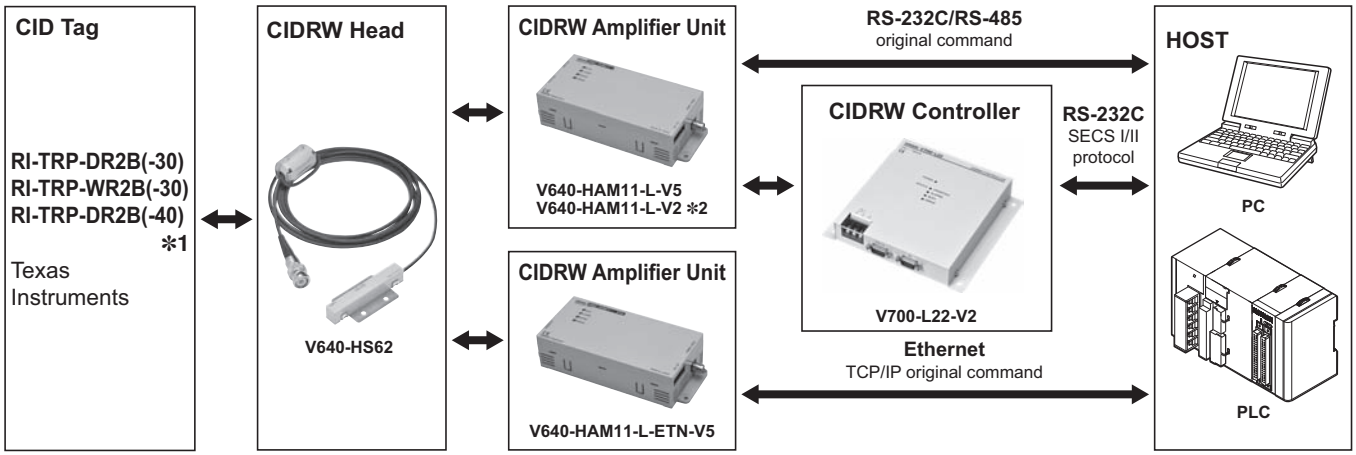
Note: Update of radio certifications can be confirmed in the OMRON website.
http://www.ia.omron.com/index.html

System Configuration

Standard Models



Long-range Communications Model



Note: 1. Use of the V700-L11 ID Link Unit enables the CIDRW Amplifier Unit to be removed/installed while the CIDRW System remains turned ON in the event of a malfunction or during maintenance.
2. Use the V700-L22-V2 CIDRW Controller when using SECS communications protocol.
3. For details,refer to the User's Manual.Confirm the Manual No. that is listed in Related Manuals.

※1. Communication performance does not guarantee.

※2. V640-HAM11-V4 and V640-HAM11-L-V2 have been discontinued at the end of March 2027.

Ordering Information

List of Models

Name	Appearance	Size	Specifications	Model
CIDRW Head		50 × 30 × 12 mm (including mounting plate)	Standard Models 2-meter cable	**V640-HS61 2M**
		65 × 30 × 12 mm (including mounting plate)	Long-range Communications Model 1.9-meter cable	**V640-HS62 1.9M**
CIDRW Amplifier Unit		80 × 185 × 43 mm	RS-232C interface RS-485 interface 24 VDC	**V640-HAM11-V5** **V640-HAM11-V4 ✻2**
		80 × 185 × 43 mm	Ethernet interface 24 VDC	**V640-HAM11-ETN-V5**
		80 × 185 × 43 mm	RS-232C interface RS-485 interface 24 VDC	**V640-HAM11-L-V5** **V640-HAM11-L-V2 ✻2**
		80 × 185 × 43 mm	Ethernet interface 24 VDC	**V640-HAM11-L-ETN-V5**
CIDRW Controller		150 × 167 × 28 mm	24 VDC RS-232C interface (Compatible with SECS I/II protocol.)	**V700-L22-V2**
ID Link Unit		110 × 65 × 64 mm	24 VDC RS-232C interface RS-485 interface	**V700-L11**
Connector accessories for the V640 CIDRW Amplifier Unit		Power Supply Connector (1) Power Supply Connector Pins (3) RS-485 Port Connector (1) } **✻1**		**V640-A90**

✻1. V640-A90 includes all of these accessories as a set. To purchase individual accessories, contact the manufacturers below directly.
✻2. V640-HAM11-V4 and V640-HAM11-L-V2 have been discontinued at the end of March 2027.

Purchasing Individual Accessories

Name	Model	Manufacturer
Power Supply Connector	1-178288-3	Tyco Electronics
Power Supply Connector Pins	175217-3	
RS-485 Port Connector	MSTB2.5/2-STF-5.08	Phoenix Contact Inc.

Specifications and Ratings

CIDRW Head

Item \ Model	V640-HS61	V640-HS62
Transmission frequency	134 kHz	
Ambient temperature	Operating: 0 to 40°C Storage: -15 to 65°C (with no icing)	
Ambient humidity	Operating/Storage: 35% to 85% (with no condensation)	
Degree of protection	IP20 (IEC60529)	
Insulation resistance	20 MΩ min. between all terminals and the case (100 VDC M)	
Dielectric strength	Leak current not to exceed 5 mA on application of 1,000 VAC (50/60 Hz for 1 minute) between all terminals and the case	
Vibration resistance	Frequency: 10 to 150 Hz, double amplitude: 0.20 mm, Acceleration: 15 m/s^2 for 8 minutes, 10 times each in X, Y, and Z directions	
Shock resistance	Shock of 150 m/s^2 in X, Y, and Z directions, 3 times each for 18 repetitions	
Casing material	ABS Stainless steel mount	
Weight	Approx. 70 g	Approx. 100 g
Cable length	2 m	1.9 m
Cable specification	3 mm dia. coaxial cable	

CIDRW Amplifier Unit

Item \ Model	V640-HAM11-V5 V640-HAM11-V4	V640-HAM11-L-V5 V640-HAM11-L-V2	V640-HAM11-ETN-V5	V640-HAM11-L-ETN-V5
Host interface	RS-232C/RS-485		Ethernet (TCP/IP)	
Power supply voltage	24 VDC 10% -15%			
Current consumption	150 mA max.	400 mA max.	150 mA max.	400 mA max.
Degree of protection	IP20 (IEC60529)			
Ambient temperature	Operating: 0 to 40°C Storage: -15 to 65°C (with no icing)			
Ambient humidity	Operating/Storage: 35% to 85% (with no condensation)			
Insulation resistance	20 MΩ min. (with 100 VDC megohmmeter) between power supply terminals and the frame ground terminal			
Dielectric strength	1,000 VAC (50/60 Hz for 1 min.) leak current consumption 5 mA max. between both power supply terminals and the frame ground terminal			
Vibration resistance	10 to 150 Hz, double amplitude: 0.20 mm, Max. Acceleration: 15 m/s^2 with 10 sweeps for 8 min. each in 3 directions			
Shock resistance	150 m/s^2, 3 times each in 6 directions			
Ground	Ground to 100 Ω or less.			
Case material	PC/ABS resin			
Dimensions	80 × 185 × 43 mm (W × D × H, excluding protruding parts)			
Mass	Approx. 250 g			
Frequency	134.2 kHz			
Radiated magnetic field strength	maximum 35 dBμA/m at 10 meters (fixed)			
Environmental pollution degree	Degree 2			
Over voltage category	Category I			
Mounting method	Secured with four M4 screws. (tightening torque: 1.2 N·m)			
CIDRW Head	V640-HS61	V640-HS62	V640-HS61	V640-HS62

CIDRW Controller

Item \ Model	V700-L22-V2
Host interface	RS-232C
Power supply voltage	24 VDC (max. fluctuation 20.4 to 26.4 VDC)
Current consumption	150 mA or less
Insulation resistance	50 MΩ min. (at 500 VDC) between the power supply terminals and the frame ground terminal
Dielectric strength	500 VAC (50/60 Hz, 1 minute) between the power supply terminals and the ground terminal
Vibration resistance	10 to 150 Hz, 0.20-mm double amplitude, 15-m/s^2 acceleration with 10 sweeps of 8 min each in X, Y, and Z directions
Shock resistance	150-m/s^2 acceleration for 3 times each in X, Y, and Z directions (18 times in total)
Ambient operating temperature	0 to 40°C (with no icing)
Ambient operating humidity	10% to 85% (with no condensation)
Ambient storage temperature	−15 to 65°C (with no icing)
Ambient storage humidity	10% to 95% (with no condensation)
Degree of protection	IEC60529: IP20
Ground	Ground at a resistance of less than 100 Ω.
Case	SECC (coating)
Weight	Approx. 560 g

ID Link Unit

Item \ Model	V700-L11
Host interface	RS-232C or RS-485
Power supply voltage	24 VDC (max. fluctuation 20.4 to 26.4 VDC)
Current consumption	250 mA or less
Insulation resistance	50 MΩ min. (at 500 VDC) between the power supply terminals and the frame ground terminal
Dielectric strength	1,000 VAC (50/60 Hz, 1 minute) between the power supply terminals and the frame ground terminal (leakage current: 5 mA max.)
Vibration resistance	10 to 150 Hz, 0.20-mm double amplitude, 15-m/s^2 acceleration with 10 sweeps of 8 min each in X, Y, and Z directions
Shock resistance	150-m/s^2 acceleration for 3 times each in X, Y, and Z directions (18 times in total)
Ambient operating temperature	0 to 40°C (with no icing)
Ambient operating humidity	35% to 85% (with no condensation)
Ambient storage temperature	−15 to 50°C (with no icing)
Ambient storage humidity	35% to 85% (with no condensation)
Degree of protection	IEC60529: IP20
Ground	Ground at a resistance of less than 100 Ω. If grounding is not performed properly, transmission specifications may be adversely affected by the surrounding environment.
Case	PC/ABS resin
Weight	Approx. 200 g

Functional Specifications

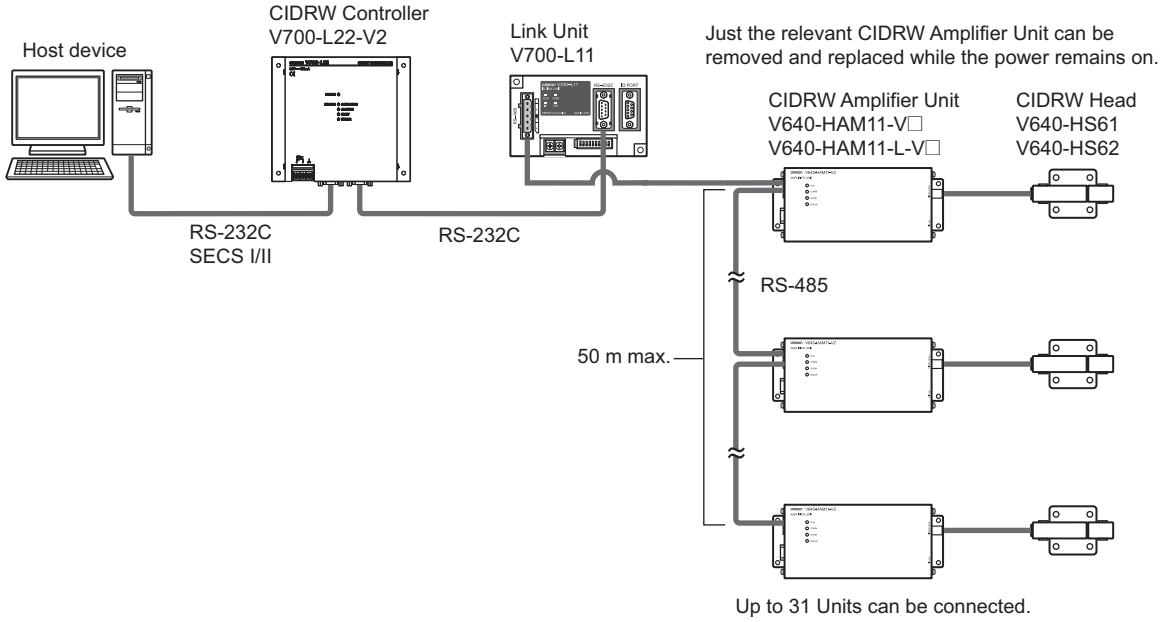
Serial Type System Configuration Examples

System Configuration Using CIDRW Controller (V700-L22-V2)

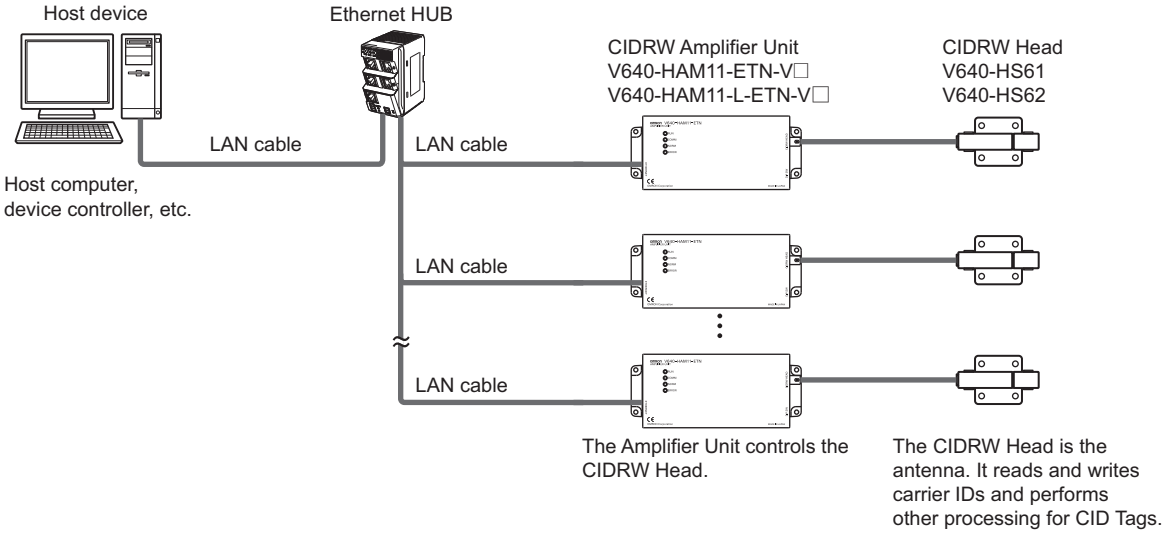
The Carrier ID Reader Writer (CIDRW) System is an RFID system that conforms to SEMI standards. The V700-L22-V2 CIDRW Controller, the V640-HAM1□ CIDRW Amplifier Unit, the V640-HS6□ CIDRW Head, and a Texas Instruments CID Tag can be used to configure a Carrier ID Reader Writer (CIDRW) System that conforms to the following standards:

Note: SEMI: Semiconductor Equipment and Materials International
SECS: SEMI Equipment Communications Standard

CIDRW System



Ethernet Type System Configuration Examples



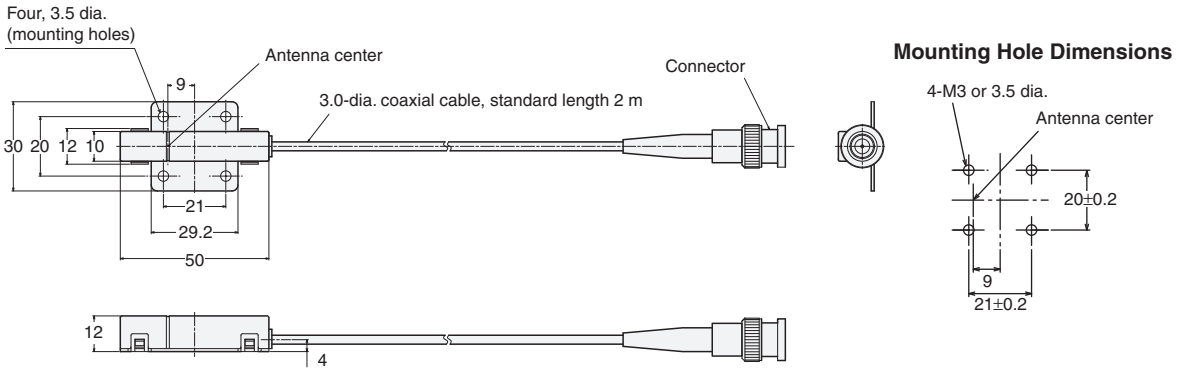
Note: If the IP address is set on the DIP switch, it will be in the form 192.168.1.□□□. The subnet mask is always 255.255.255.0.
The IP address of the CIDRW Amplifier Unit can be either set on this DIP switch or the desired IP address can be set in ROM. If pins 1 to 5 on the DIP switch are all turned OFF, the IP address that is set in ROM will be used.

Dimensions

(Unit: mm)

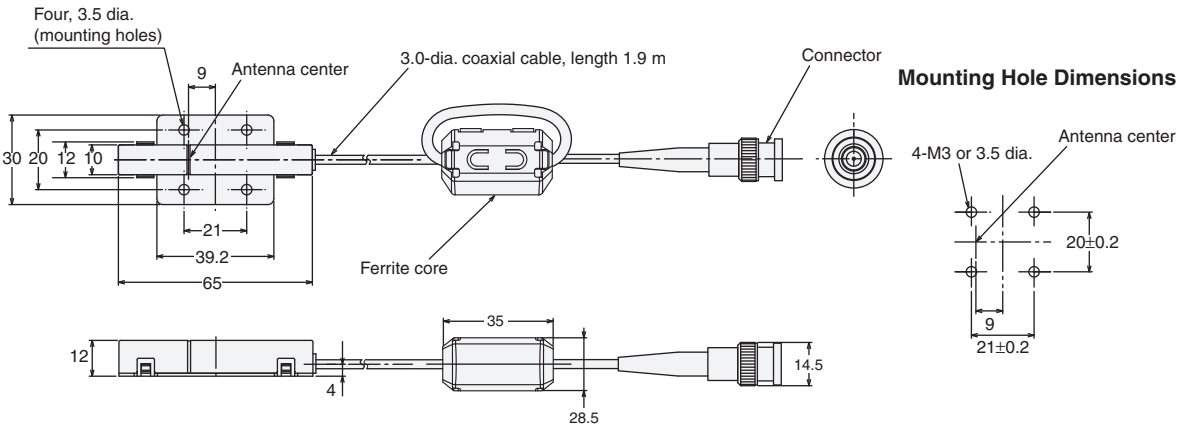
CIDRW Head

V640-HS61



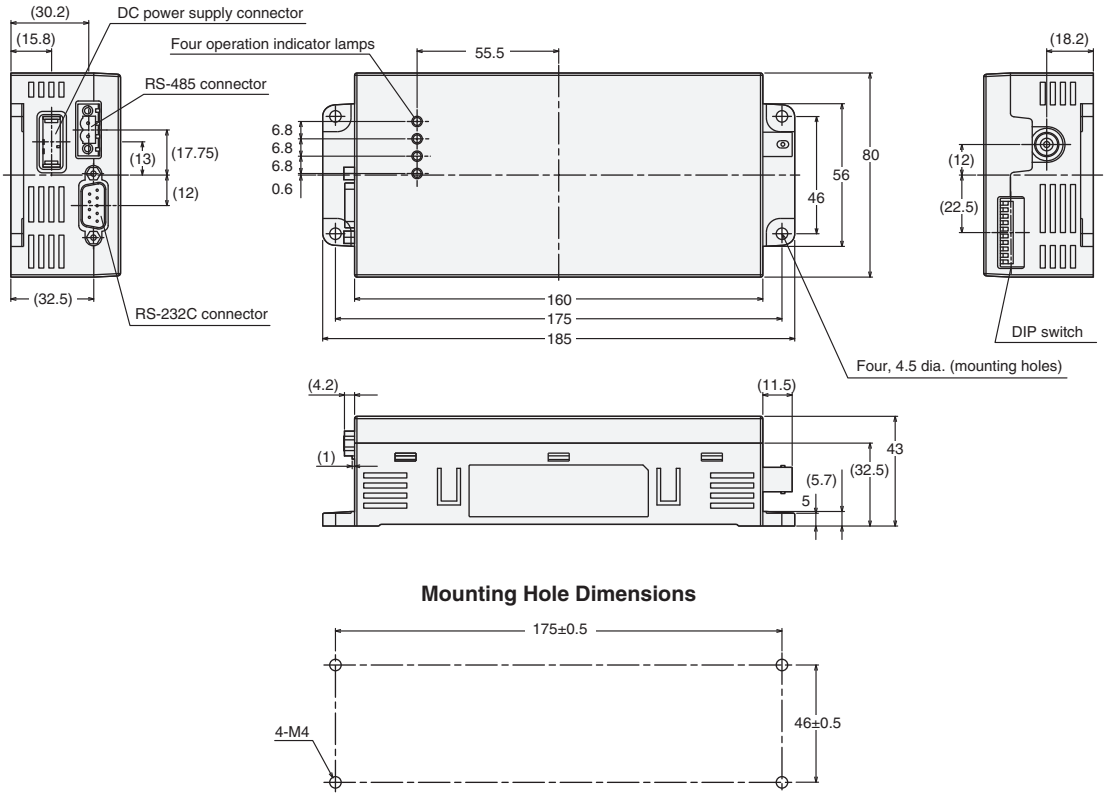
CIDRW Head

V640-HS62



CIDRW Amplifier Unit

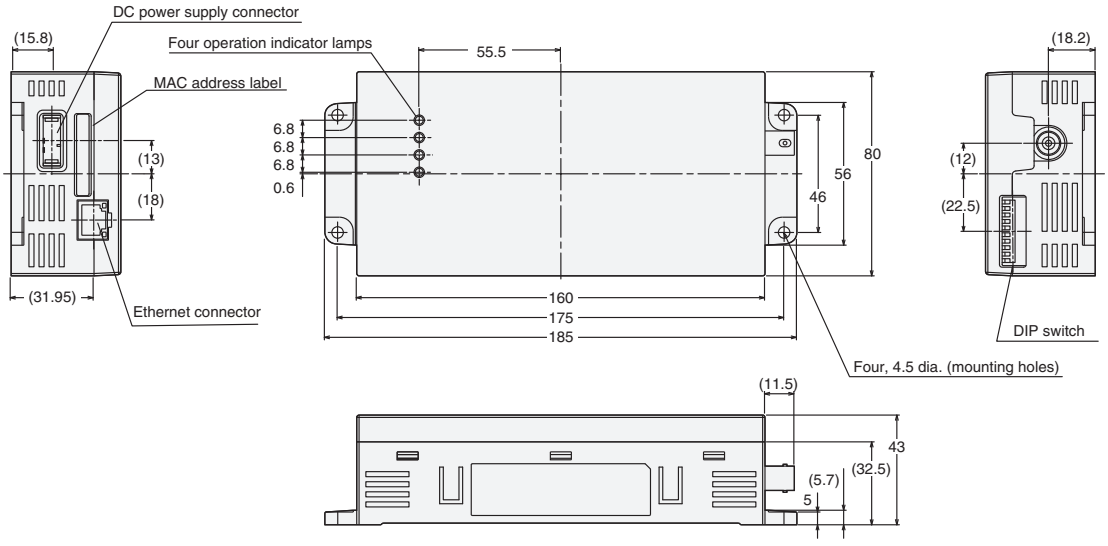
V640-HAM11-V5
V640-HAM11-L-V5
V640-HAM11-V4
V640-HAM11-L-V2



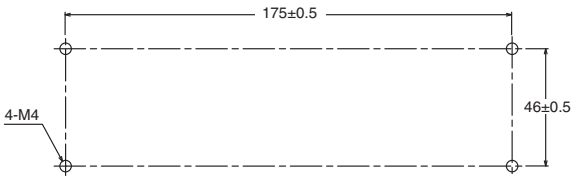
Mounting Hole Dimensions

CIDRW Amplifier Unit

V640-HAM11-ETN-V5
V640-HAM11-L-ETN-V5

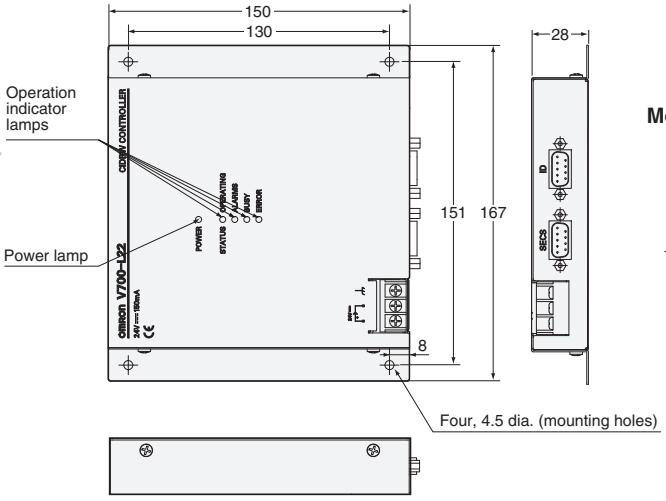


Mounting Hole Dimensions

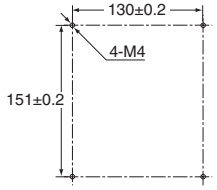


CIDRW Controller

V700-L22-V2

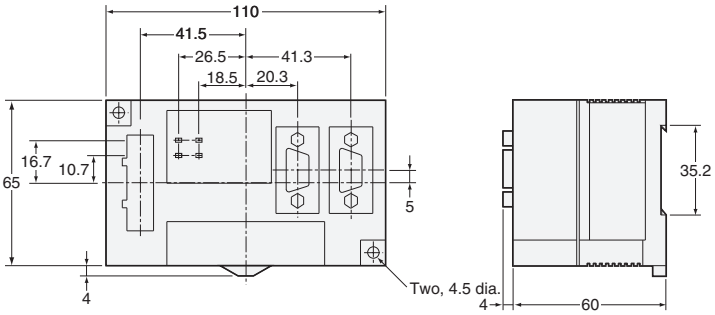


Mounting Hole Dimensions

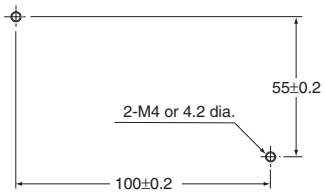


ID Link Unit

V700-L11



Mounting Hole Dimensions



Related Manuals

English Cat.No.	Japanese Cat.No.	Model	Name
Z360-E1	SDGR-712	V640-HAM11-V4 V640-HAM11-L-V2 V640-HS61/HS62 V700-L11/L22 ✻/L22-V2	V640 Series User's Manual
Z497-E1	SDGR-722	V640-HAM11-ETN-V5 V640-HAM11-L-ETN-V5 V640-HS61 V640-HS62	V640 Series User's Manual
Z498-E1	SDGR-723	V640-HAM11-V5 V640-HAM11-L-V5 V640-HS61/HS62 V700-L11/L22 ✻/L22-V2	V640 Series User's Manual

✻ Production was discontinued.

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2026.9

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