

주의 | 본 카탈로그의 내용은 사전 예고 없이 변경될 수 있습니다.
실제 제품의 색상은 카탈로그와 차이가 있을 수 있습니다.
제품을 작동하기 전에 반드시 매뉴얼을 읽어보십시오.

SMART DEVICE



(주)엠투아이코퍼레이션

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팩스: 031-465-3355

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전화번호: 053-604-6166

SMART DEVICE

Product Catalog

SMART DEVICE

CONTENTS

MIO Remote I/O SERIES	04P
Coupler Module / I/O Module / Expansion Module	
MIO LoRa SERIES	12P
Gateway / EndNode	
MGW SERIES	18P
IoT Gateway	
MSR SERIES	22P
Barcode Scanner	

MIO SERIES

MIO-CMR0A / MIO-DI, DO / MIO-AI, AO / MIO-PWR / MIO-COM



MIO REMOTE I/O

특장점

- Compact**

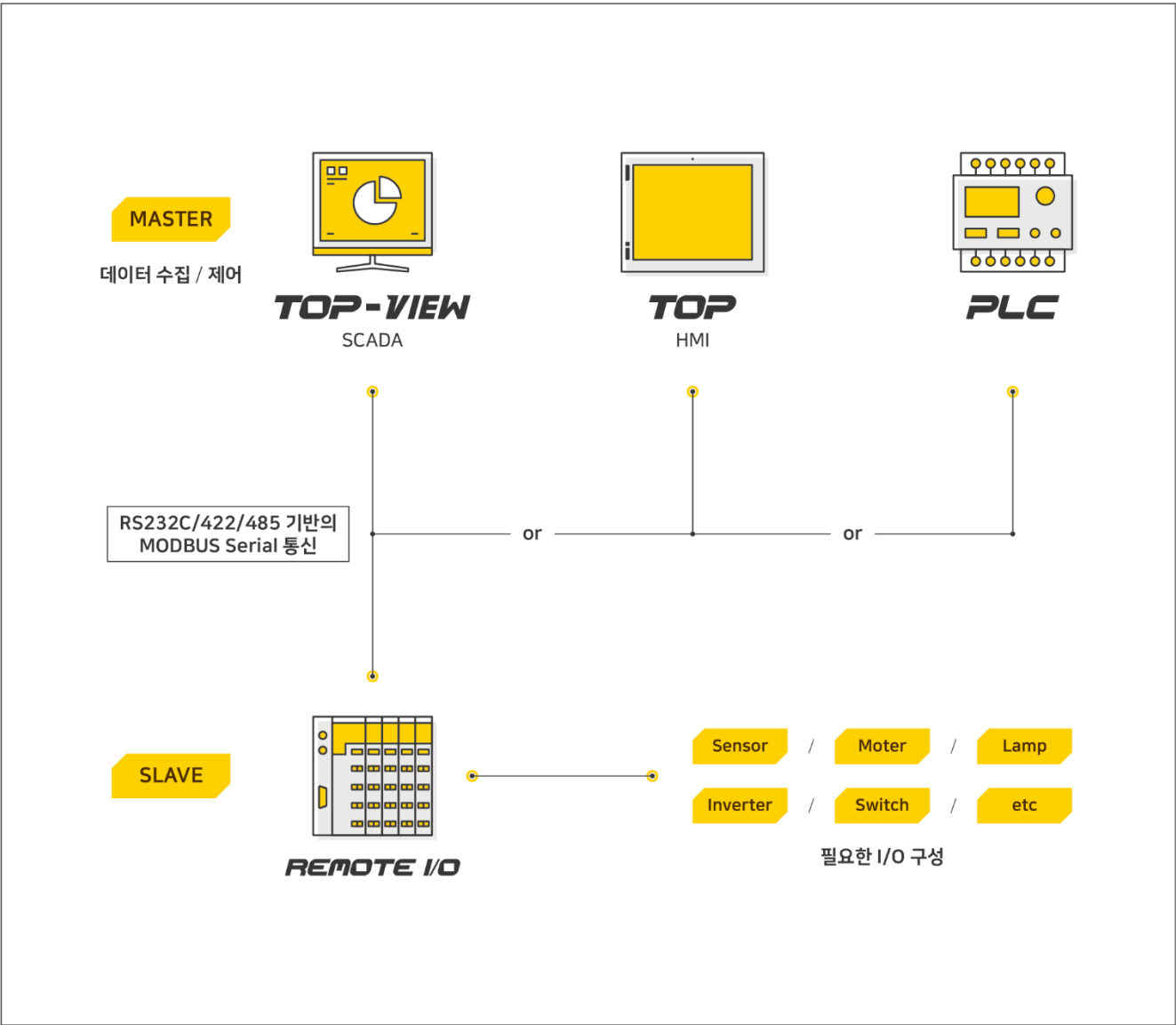
초소형 사이즈로 최소 공간에 최대 점점 관리
- Module**

모듈을 원하는 만큼 용도에 맞게 탈부착하여 구성 (최대 32슬롯)
- Hot Swap**

전원 OFF 없이 편리하게 I/O 모듈 교체
고장 시 부분 교체로 효율적인 유지 보수
- Easy**

누구나 쉽게 설정할 수 있는 소프트웨어 MIO Master

Remote I/O 연결도



MIO-CMROA SPECIFICATIONS

COUPLER MODULE

Functional		MIO-CMROA	MIO-END-01
Power	Type	Protocol	MODBUS RTU/ASCII
		Input Voltage	24Vdc(19.2 ~ 28.8Vdc)
		Power Dissipation	50mA Typical@24Vdc
		Voltage Sag	24Vdc, Within 10ms
		Insulation Resistance	500Vdc, 10MΩ
		Current for I/O Module	1.4A@5Vdc
		Isolation	System Power to Internal Logic: Isolation System Power I/O Driver: Isolation
		Field Power	Supply Voltage: 24Vdc Typ. Supply Voltage Range: 11 ~ 28.8Vdc
		Max. Current Field Power Contact	Max. 7A@24Vdc
Interface		Interface Connector	Connector: DSUB 9Pin x 1
		Physical Interface	RS-232C, 485/422 Asynchronous Data Bit: 7/8 Bits, Stop Bit: 1/2 Bits, Parity Bit: None/Odd/Even Baud Rate: 2400 ~ 187.5kbps
		Max. Length Bus Line	500m@RS-485/422, 10m@RS-232C
		Max. Expansion Module	32 Slots
		Max. Nodes	255 Nodes@RS-485/422
		Node Setting	1 ~ 255
		Baud Rate	Max. 187.5kbps
		USB	Connector: USB Mini - B x 1
		Max. Input Size	Input + Output Max. 256 Byte
Memory		Max. Output Size	Input + Output Max. 256 Byte
Other		Indicator	7 LED MODBUS Status, I/O Module Status, Coupler Status, System Power Status, RX/TX Status, Field Power Status
		Wiring	AWG 26 to 20
Environment		Operation Temperature(°C)	-10 ~ +50
		Storage Temperature(°C)	-20 ~ +60
		Operation Humidity(%RH)	0 ~ 90(No Dew)
		Atmosphere	No Corrosive Gas
		Vibration Endurance	Amplitude: 10≤F < 25Hz(2G) X, Y, Z each Direction(for 30 Minutes)
		Noise Immunity	1000Vp-p(Pulse Width 1μs)
		Static Electricity Discharge	Connective Discharge from EN61000-4-2: ±4kV
		Shock Endurance	10G X, Y, Z each Direction(for 3 Times)
		Ground Connection	Class 3(100Ω Under)
		Protection Classification	IP20
		Certification	CE, KC, UL
			-
Structure		External Dimension(mm)	52.2 x 101 x 75
		Weight(kg)	0.16
		Cooling System	Natural Air Circulation
		Case Material	PC(Resistance to Flame)

MIO-DI, DO SPECIFICATIONS

I/O MODULE

Functional		MIO-DIN08-01	MIO-DIP08-01	MIO-DON08-01	MIO-DOP08-01	MIO-DOR04-01
Type	Input/Output Type	8 Channels Sink Type, Input	8 Channels Source Type, Input	8 Channels Sink Type, Output	8 Channels Source Type, Output	4 Channels Relay Type, Output
Power	Input/Output Voltage	24Vdc Typ. On-State Min. 10.2Vdc ~ Max. 28.8Vdc, Off-State Max. 5Vdc		24Vdc Typ. Min. 11.0Vdc ~ Max. 28.8Vdc, On-State Voltage Drop: Max. 0.3Vdc@25℃ Off-State Leakage Current: Max. 50uA		A Contact, 24Vdc
	Power Dissipation	Max. 70mA@5.0Vdc		Max. 90mA@5.0Vdc		Max. 200mA@5.0Vdc
	Input/Output Current in On State	Max. 6mA/ Channel@28.8Vdc		Max. 0.5A/ Channel@28.8Vdc		2A/Channel@24Vdc
Interface	Max. On-State Voltage Drop	-		Max. 0.3Vdc@25℃		0.5V@2.0A, Resistive Load, 24Vdc
	Off-State Leakage Current	-		Max. 50uA		Max. 1.5mA
	Typ. Input Impedance	Typ. 4.7KΩ		-		
	Input/Output Signal Delay	Off to On: Max. 0.1ms On to Off: Max. 0.5ms		Off to On: Max. 0.3ms On to Off: Max. 0.5ms		Off to On: Max. 3ms On to Off: Max. 3ms
	Input Filter(Digital)	0.5ms		-		
	Isolation	Photocoupler				Relay Coil/ Contact Isolation
	Common Type	2COM(Single Common), 24Vdc	2COM(Single Common), 0Vdc	2COM(Single Common), 24Vdc	2COM(Single Common), 0Vdc	4COM(1COM/1Channel)
	Field Power	Supply Voltage: 24Vdc Typ. Supply Voltage Range: 11 ~ 28.8Vdc				-
	Other	Wiring	AWG 26 to 20			
Pin No.		Removable Terminal Block 10P				
Indicator		9 LED 8 Channel States, 1 Operating State				5 LED 4 Channel States, 1 Operating State
Environment	Operation Temperature(℃)	-10 ~ +50				
	Storage Temperature(℃)	-20 ~ +60				
	Operation Humidity(%RH)	0 ~ 90(No dew)				
	Atmosphere	No Corrosive Gas				
	Vibration Endurance	Amplitude: 10≤F<25Hz(2G) X, Y, Z each Direction(for 30 Minutes)				
	Noise Immunity	1000Vp-p(Pulse Width 1μs)				
	Static Electricity Discharge	Connective Discharge from EN61000-4-2: ±4kV				
	Shock Endurance	10G X, Y, Z each Direction(for 3 Times)				
	Ground Connection	Class 3(100Ω Under)				
	Protection Classification	IP20				
	Certification	CE, KC, UL				
	Structure	External Dimension(mm)	12 x 101 x 75			
Weight(kg)		0.06				
Cooling System		Natural Air Circulation				
Case Material		PC(Resistance to Flame)				

MIO-DI, DO SPECIFICATIONS

I/O MODULE

Functional		MIO-DIN16-01	MIO-DIP16-01	MIO-DON16-01	MIO-DOP16-01
Type	Input/Output Type	16 Channels Sink Type, Input	16 Channels Source Type, Input	16 Channels Sink Type, Output	16 Channels Source Type, Output
Power	Input/Output Voltage	24Vdc Typ. On-State Min. 10.2Vdc ~ Max. 28.8Vdc, Off-State Max. 5Vdc		24Vdc Typ. Min. 11.0Vdc ~ Max. 28.8Vdc, On-State Voltage Drop: Max. 0.3Vdc@25℃ Off-State Leakage Current: Max. 50uA	
	Power Dissipation	Max. 70mA@5.0Vdc		Max. 120mA@5.0Vdc	
	Input/Output Current in On State	Max. 6mA/ Channel@28.8Vdc		Max. 0.5A/ Channel@28.8Vdc	
Interface	Max. On-State Voltage Drop	-		Max. 0.3Vdc@25℃	
	Off-State Leakage Current	-		Max. 50uA	
	Typ. Input Impedance	Typ. 4.7KΩ		-	
	Input/Output Signal Delay	Off to On: Max. 0.1ms On to Off: Max. 0.5ms		Off to On: Max. 0.3ms On to Off: Max. 0.5ms	
	Input Filter(Digital)	0.5ms		-	
	Isolation	Photocoupler			
	Common Type	Not Support			
	Field Power	Supply Voltage: 24Vdc Typ. Supply Voltage Range: 11 ~ 28.8Vdc			
	Wiring	AWG 26 to 20			
	Pin No.	Removable Terminal Block 16P			
Other	Indicator	17 LED 16 Channel States, 1 Operating State			
	Operation Temperature(℃)	-10 ~ +50			
	Storage Temperature(℃)	-20 ~ +60			
	Operation Humidity(%RH)	0 ~ 90(No dew)			
	Atmosphere	No Corrosive Gas			
	Vibration Endurance	Amplitude: 10≤F < 25Hz(2G) X, Y, Z each Direction(for 30 Minutes)			
	Noise Immunity	1000Vp-p(Pulse Width 1μs)			
	Static Electricity Discharge	Connective Discharge from EN61000-4-2: ±4kV			
	Shock Endurance	10G X, Y, Z each Direction(for 3 Times)			
	Ground Connection	Class 3(100Ω Under)			
Environment	Protection Classification	IP20			
	Certification	CE, KC, UL			
	External Dimension(mm)	12 x 101 x 75			
	Weight(kg)	0.06			
	Cooling System	Natural Air Circulation			
	Case Material	PC(Resistance to Flame)			

MIO-AI, AO SPECIFICATIONS

I/O MODULE

Functional		MIO-AIR02-01	MIO-AIV04-01	MIO-AIC04-01	MIO-AOV04-01	MIO-AOC04-01
Type	Input/Output Type	2 Channels Analog RTD Type	4 Channels Analog Voltage Type	4 Channels Analog Current Type	4 Channels Analog Voltage Type	4 Channels Analog Current Type
	Sensor Type and Input /Output Range	PT100 * -200.0 to +850.0℃	0 ~ 5 Vdc	0 ~ 20mA	0 ~ 5 Vdc	0 ~ 20mA
Power	Power Dissipation	Max. 70mA@5.0Vdc		Max. 200mA@5.0Vdc		
	Field Power			Max. 60mA@24Vdc		
Characteristic	Typ. Input Impedance	-	Min. 500KΩ	Max. 250Ω	-	
	Load	-	-	-	Min. 1KΩ	Max. 500Ω
	Data Format			16bits Integer		
	Resolution	0.0312℃/1bit	16bits, 0.076mV/1bit	16bits, 0.3uA/bit	16bits, 0.076mV/1bit	16bits, 0.3uA/bit
	Conversion Time	Approx. 70ms, All Channel@50Hz		4ms/All Channel		
	Module Error			±0.1% Full Scale@+25℃, ±0.3% Full Scale@-10℃, +50℃		
	Isolation			I/O to Logic: Capacitive Isolation, External Power : Transformer Isolation		
	Common Type	2COM (1Common/1Channel)		4COM (Single Common)		
	Wiring			AWG 26 to 20		
	Pin No.			Removable Terminal Block 10P		
Other	Indicator	3 LED 2 Channel States, 1 Operating State		5 LED 4 Channel States, 1 Operating State		
	Operation Temperature(℃)			-10 ~ +50		
	Storage Temperature(℃)			-20 ~ +60		
	Operation Humidity(%RH)			0 ~ 90(No dew)		
	Atmosphere			No Corrosive Gas		
	Vibration Endurance			Amplitude: 10≤F < 25Hz(2G) X, Y, Z each Direction(for 30 Minutes)		
	Noise Immunity			1000Vp-p(Pulse Width 1μs)		
	Static Electricity Discharge			Connective Discharge from EN61000-4-2: ±4kV		
	Shock Endurance			10G X, Y, Z each Direction(for 3 Times)		
	Ground Connection			Class 3(100Ω Under)		
Environment	Protection Classification			IP20		
	Certification			CE, KC, UL		
	External Dimension(mm)			12 x 101 x 75		
	Weight(kg)			0.06		
	Cooling System			Natural Air Circulation		
	Case Material			PC(Resistance to Flame)		
Structure						

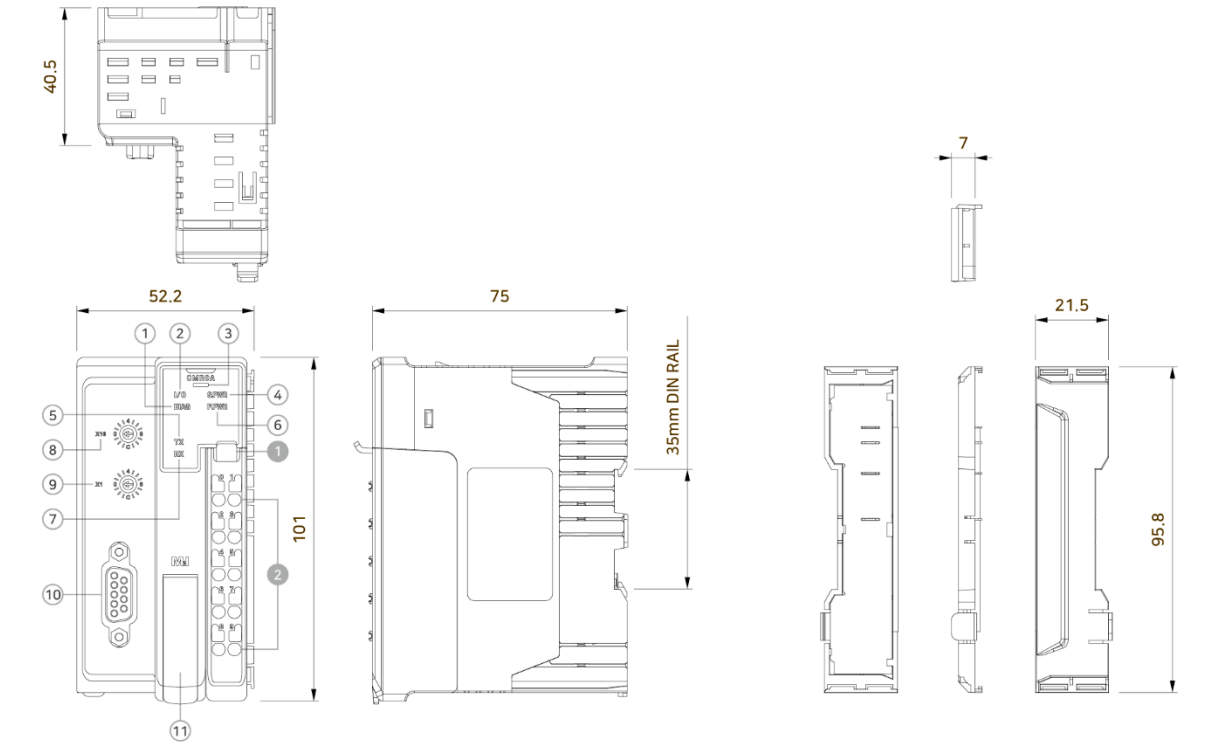
MIO-PWR, COM SPECIFICATIONS

EXPANSION MODULE

	Functional	MIO-PWR0A	MIO-PWR0B	MIO-COM0A	MIO-COM0B	MIO-COM0C
Power	Input System Voltage	24Vdc Typ.(20V ~ 28V)		-		
	Voltage Sag	24Vdc, Within 10ms		-		
	Insulation Resistance	500Vdc, 10MΩ		-		
	Current for I/O Module	1.4A@5Vdc		-		
	Isolation	System Power to Internal Logic: Isolation System Power I/O Driver: Isolation		-		
	Field Power	Supply Voltage: 24Vdc Typ. Supply Voltage Range: 11 ~ 28.8Vdc				
	Max. Current Field Power Contact	Max. 7A@24Vdc				
Characteristic	Common Type	Not Support		16COM(Single Common) 24Vdc	16COM(Single Common) 0Vdc	8COM(Single Common) 24Vdc, 0Vdc
Other	Wiring	AWG 26 to 20				
	Pin No.	Removable Terminal Block 10P		Removable Terminal Block 16P		
	Indicator	3 LED System Power Status, Module Status, Field Power Status	2 LED Module Status, Field Power Status	1 LED Module Status		
Environment	Operation Temperature(℃)	-10 ~ +50				
	Storage Temperature(℃)	-20 ~ +60				
	Operation Humidity(%RH)	0 ~ 90(No dew)				
	Atmosphere	No Corrosive Gas				
	Vibration Endurance	Amplitude: 10≤F<25Hz(2G) X, Y, Z each Direction(for 30 Minutes)				
	Noise Immunity	1000Vp-p(Pulse Width 1μs)				
	Static Electricity Discharge	Connective Discharge from EN61000-4-2: ±4kV				
	Shock Endurance	10G X, Y, Z each Direction(for 3 Times)				
	Ground Connection	Class 3(100Ω Under)				
	Protection Classification	IP20				
	Certification	CE, KC, UL	CE, UL			
Structure	External Dimension(mm)	12 x 101 x 75				
	Weight(kg)	0.06				
	Cooling System	Natural Air Circulation				
	Case Material	PC(Resistance to Flame)				

DRAWING

COUPLER MODULE MIO-CMR0A, MIO-END-01



- ① MODBUS 상태 표시 LED

② I/O 모듈 상태 표시 LED

③ 리모트 I/O 커플러 상태 LED
- ④ 시스템 전원 상태 LED

⑤ TX 상태 표시 LED

⑥ 필드 전원 상태 LED
- ⑦ RX 상태 표시 LED

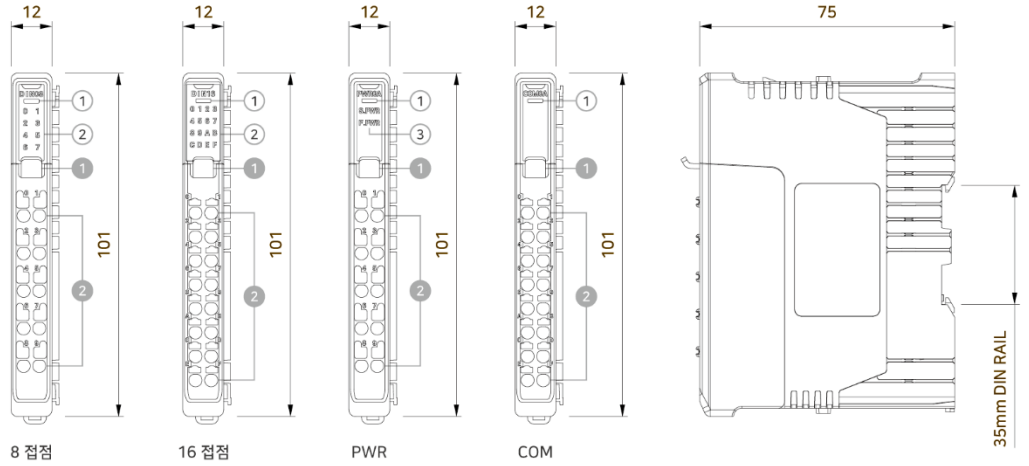
⑧ 노드 번호 설정 스위치 16배율

⑨ 노드 번호 설정 스위치 1배율
- ⑩ MODBUS 통신 포트

⑪ USB 커넥터 커버
- ① 분리 후크

② 채널 접점

I/O MODULE, EXPANSION MODULE



- ① 상태 표시 LED

② 접점 입력 상태 LED

③ 시스템 전원, 필드 전원 상태 LED
- ① 분리 후크

② 채널 접점

MIO SERIES

Gateway(MIO-LPG00) / EndNode(MIO-LPE00)



MIO LoRa

특장점

- LoRa 통신 기술을 이용하여 자체 프로토콜 및 네트워크 망 구성

별도의 통신 비용 없이 사용 가능
- 하나의 LoRa EndNode에서 다양한 입출력을 제공

디지털 IN/OUT, 릴레이 접점, 아날로그 전류/전압
- 다양한 테스트를 통과한 산업용 제품으로 안전하고 강한 성능

충격, 노이즈, 정전기, 온도 등 다양한 테스트 통과
- 편리한 환경 설정 방식 제공

MODE 버튼을 이용한 LoRa Gateway/EndNode 간 자동 환경 설정 가능

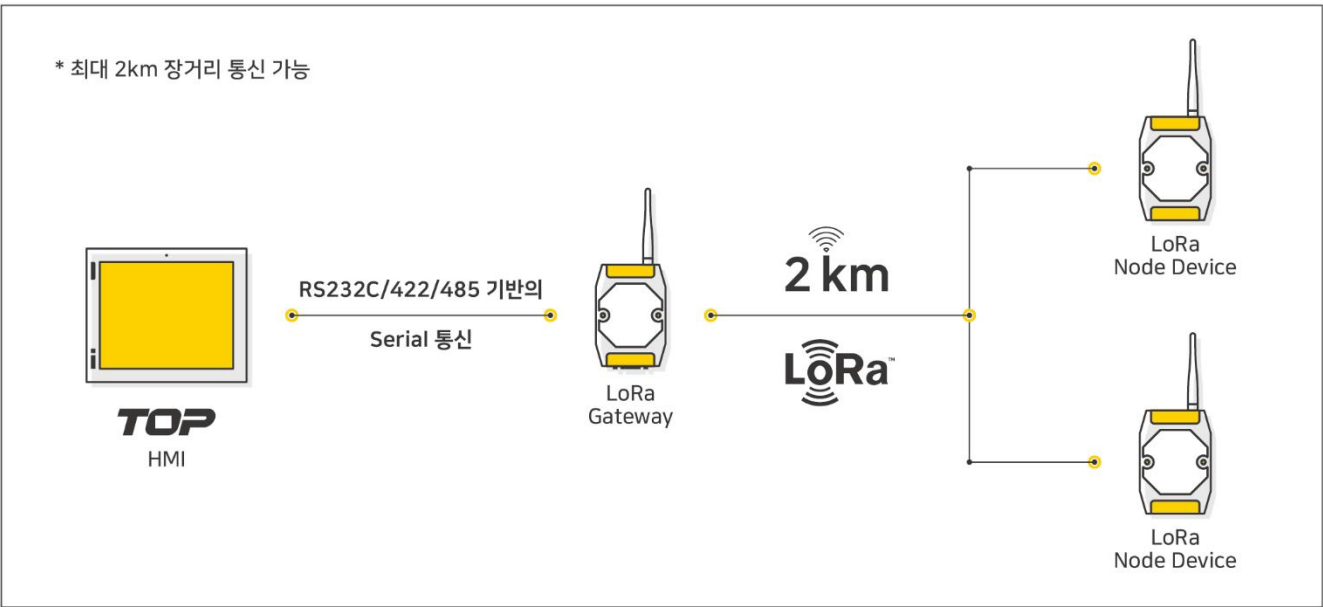
제품 상단의 스위치로 주파수와 SF 설정 즉시 변경 가능

LoRa 사용 방법

* 자세한 사용 방법은 매뉴얼을 참고하여 주세요.

- 01 [엠투아이 LoRa 설정기]에서 LoRa Gateway/EndNode의 환경 설정을 USB 케이블로 다운로드합니다.
- 02 TOP 제품과 LoRa Gateway를 **시리얼 통신(RS-232C/422/485)**으로 연결합니다.
- 03 TOP Design Studio에서 해당 시리얼 포트에 LoRa Gateway를 추가하고, 통신 옵션에서 LoRa EndNode의 개수만큼 Device ID를 등록합니다.
- ! TOP에서 LoRa Gateway의 데이터를 모니터링/제어할 수 있으며, LoRa Gateway는 LoRa 통신으로 LoRa EndNode의 데이터를 송수신할 수 있습니다.

LoRa 연결도



LoRa SPECIFICATIONS

GATEWAY

Functional		MIO-LPG00
Power	Input Voltage	24Vdc(20 ~ 28Vdc)
	Power Dissipation	3W
	Voltage Sag	24Vdc, Within 10ms
	Insulation Resistance	500Vdc, 10MΩ
	RF Frequency	TX: 922.1 ~ 923.1 MHz, RX: 923.3 MHz
LoRa RF	Output Power	Max. 25mW(+14dBm, With Antenna)
	Communication Distance	Within 2Km
	Antenna	1T1R Dipole, +3.2dBm
	Security Setting	AES-128
	Serial Comm.	RS-232C, 485/422 Asynchronous Data Bit: 7/8 Bits, Stop Bit: 1/2 Bits, Parity Bit: None/Odd/Even, Baud Rate: 2400 ~ 115.2kbps Connector: DSUB 9Pin x 1
Interface	USB	Connector: USB Mini - B x 1
	Status LED	4 LEDs(Power, LoRa, Serial TX, RX) Built in
Other	Frequency Selection	Rotary Switch, Select 1 Out of 6 Channels
	SF Selection	Rotary Switch, Select 7 Out of 12 Setting
	Reset Button	Support
	Mode Button	Support
	Operation Temperature(°C)	-10 ~ +50
Environment	Storage Temperature(°C)	-20 ~ +60
	Operation Humidity(%RH)	0 ~ 90(No Dew)
	Atmosphere	No Corrosive Gas
	Vibration Endurance	Amplitude: 10sF < 25Hz(2G) X, Y, Z each Direction(for 30 Minutes)
	Noise Immunity	1000Vp-p(Pulse Width 1μs)
	Static Electricity Discharge	Connective Discharge from EN61000-4-2: ±4kV
	Shock Endurance	10G X, Y, Z each Direction(for 3 Times)
	Ground Connection	Class 3(100Ω Under)
	Protection Classification	IP20
	Certification	KC
Structure	External Dimension(mm)	72 x 305 x 44.6(*With Antenna)
	Weight(kg)	0.14
	Cooling System	Natural Air Circulation
	Case Material	ABS(Resistance to Flame)

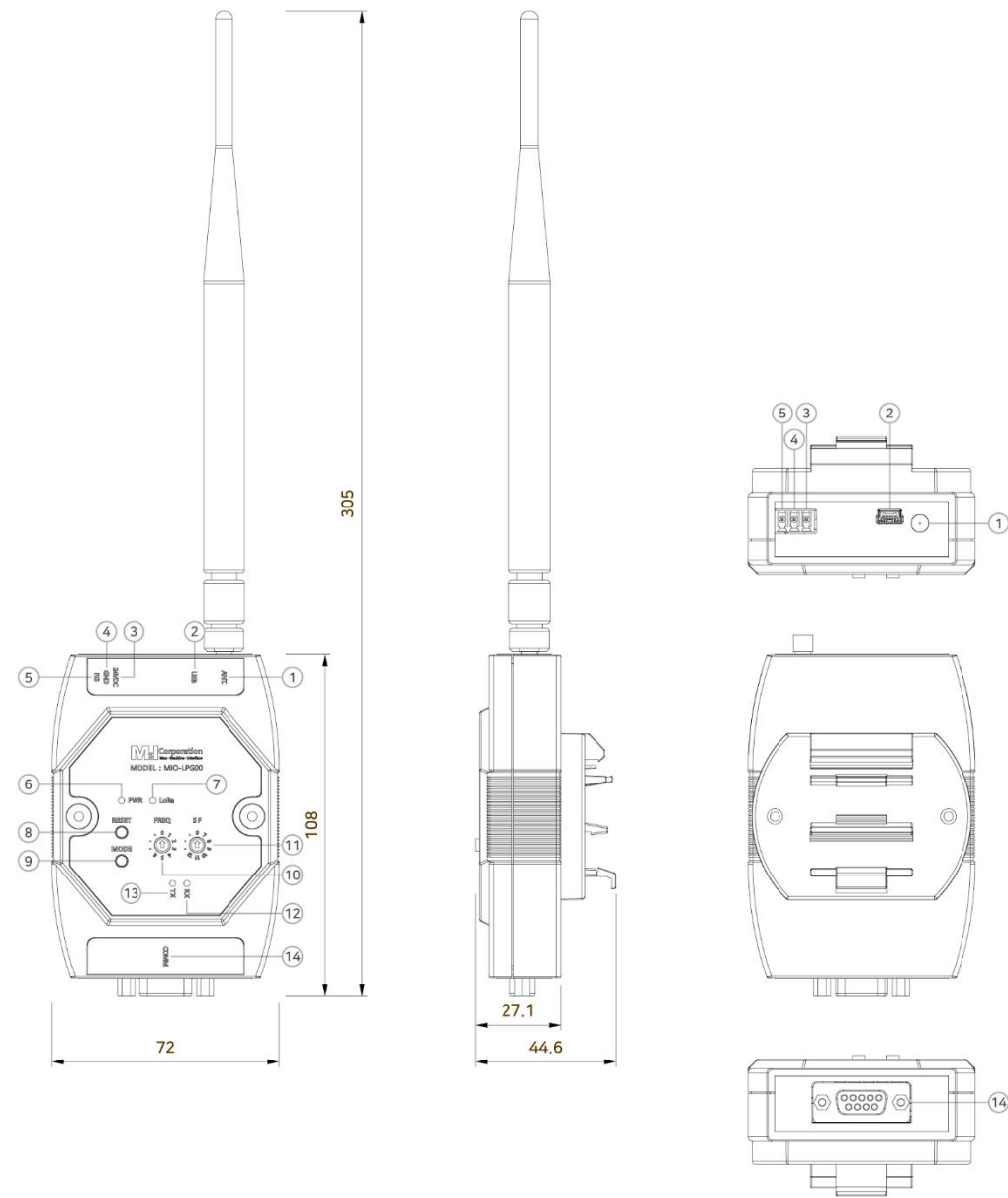
LoRa SPECIFICATIONS

ENDNODE

Functional		MIO-LPE00
Power	Input Voltage	24Vdc(20 ~ 28Vdc)
	Power Dissipation	3W
	Voltage Sag	24Vdc, Within 10ms
	Insulation Resistance	500Vdc, 10MΩ
	RF Frequency	TX: 922.1 ~ 923.1 MHz, RX: 923.3 MHz
LoRa RF	Output Power	Max. 25mW(+14dBm, With Antenna)
	Communication Distance	Within 2Km
	Antenna	1T1R Dipole, +3.2dBm
	Security Setting	AES-128
	Serial Comm.	-
I/O Interface	USB	Connector: USB Mini - B x 1
	Analog Current Input	Connector 3.5mm TB
		Assigned Channel 2 Channel
		Input Range 4 ~ 20 mA
		Resolution and Accuracy 16-bit, ±0.1%@25°C or better
	Analog Voltage Input	Connector 3.5mm TB
		Assigned Channel 2 Channel
		Input Range 0 ~ 5Vdc
		Resolution and Accuracy 16-bit, ±0.1%@25°C or better
	Digital Input	Connector 3.5mm TB
		Type 3 Channel Source or Sink
		Output Current in On State Max. 4mA/Channel @24Vdc
	Digital Output	Connector 3.5mm TB
		Type 2 Channel Sink
		Output Current in On State Max. 0.5A/Channel @24Vdc
Other	Relay Output	Connector 3.5mm TB
		Type 2 Channel Relay
		Output Current in On State 1A/30Vdc, 0.3A/125Vac
	Status LED	9 LEDs(Power, LoRa, Each I/O: 7LEDs) Built in
	Frequency Selection	Rotary Switch, Select 1 Out of 6 Channels
	SF Selection	Rotary Switch, Select 7 Out of 12 Setting
	Reset Button	Support
	Mode Button	Support
Environment	Operation Temperature(°C)	-10 ~ +50
	Storage Temperature(°C)	-20 ~ +60
	Operation Humidity(%RH)	0 ~ 90(No Dew)
	Atmosphere	No Corrosive Gas
	Vibration Endurance	Amplitude: 10sF < 25Hz(2G) X, Y, Z each Direction(for 30 Minutes)
	Noise Immunity	1000Vp-p(Pulse Width 1μs)
	Static Electricity Discharge	Connective Discharge from EN61000-4-2: ±4kV
	Shock Endurance	10G X, Y, Z each Direction(for 3 Times)
	Ground Connection	Class 3(100Ω Under)
	Protection Classification	IP20
	Certification	KC
Structure	External Dimension(mm)	72 x 300 x 44.6(*With Antenna)
	Weight(kg)	0.14
	Cooling System	Natural Air Circulation
	Case Material	ABS(Resistance to Flame)

DRAWING

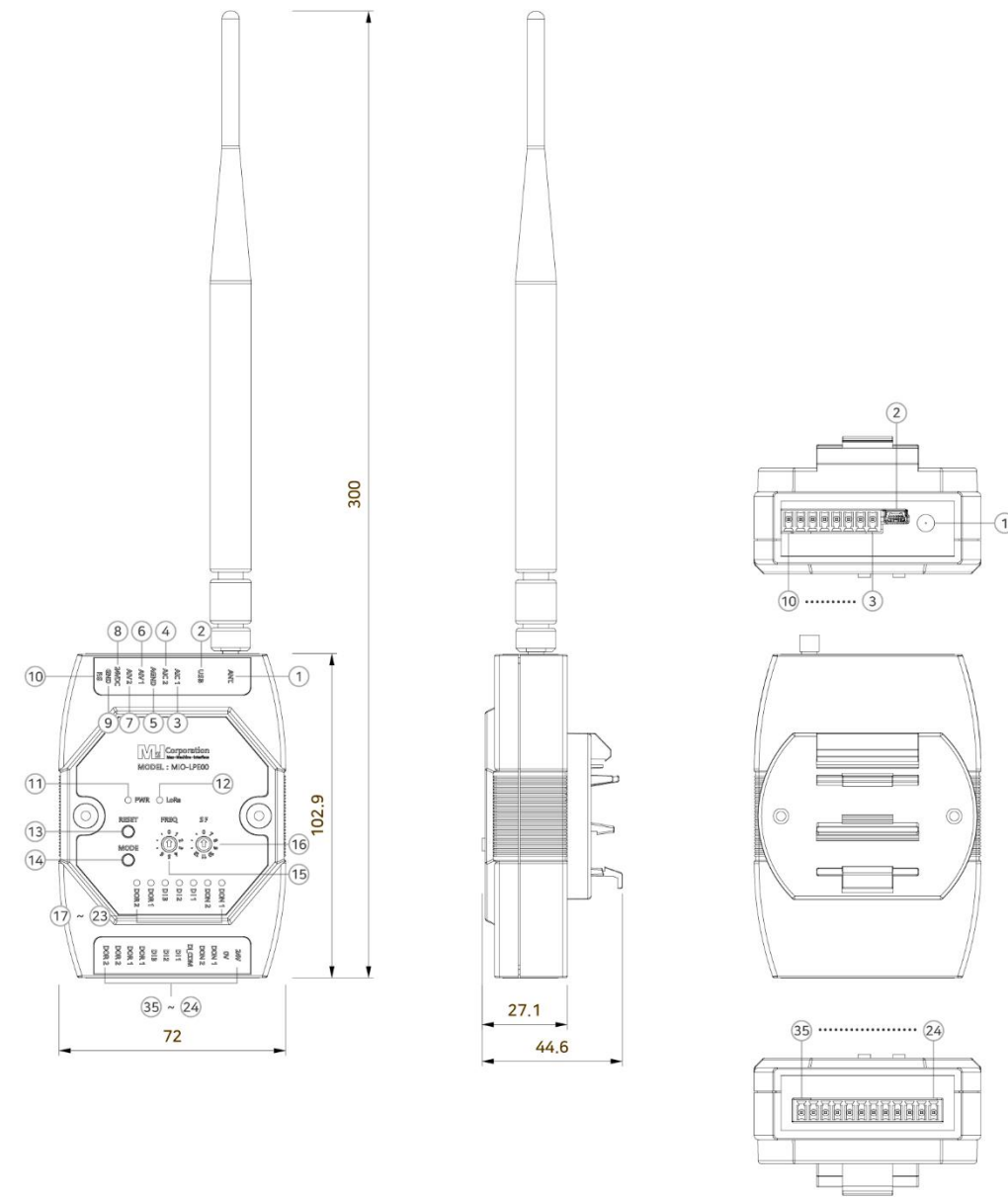
MIO-LPG00



- ① LoRa 안테나 체결부
- ② USB 설정 커넥터
- ③ 시스템 전원 DC 24V 입력 단자
- ④ 시스템 전원 GND 단자
- ⑤ F.G 단자
- ⑥ 시스템 전원 상태 표시
- ⑦ LoRa 통신 상태 표시
- ⑧ 시스템 RESET 스위치
- ⑨ MODE 동작 스위치
- ⑩ 주파수 채널 [0 ~ 6] 변경 스위치
- ⑪ SF 설정 [0], [7 ~ 12] 변경 스위치
- ⑫ COMM 통신의 수신 상태 표시
- ⑬ COMM 통신의 송신 상태 표시
- ⑭ 시리얼 통신 커넥터

DRAWING

MIO-LPE00



- ① LoRa 안테나 체결부
- ② USB 설정 커넥터
- ③ 아날로그 전류 입력 1번 채널 단자
- ④ 아날로그 전류 입력 2번 채널 단자
- ⑤ AIC 1, 2 / AIV 1, 2 공통 단자
* 필드 전원(0V) 연결 단자
** Source Type으로 연결 시 사용
- ⑥ 아날로그 전압 입력 1번 채널 단자
- ⑦ 아날로그 전압 입력 2번 채널 단자
- ⑧ 시스템 전원 DC 24V 입력 단자
- ⑨ 시스템 전원 GND 단자
- ⑩ F.G 단자
- ⑪ 시스템 전원 상태 표시
- ⑫ LoRa 통신 상태 표시
- ⑬ 시스템 RESET 버튼
- ⑭ MODE 동작 버튼
- ⑮ 주파수 채널 [0 ~ 6] 변경 스위치
- ⑯ SF 설정 [0], [7 ~ 12] 변경 스위치
- ⑰ ~ ⑳ 동작 상태 표시 LED
- ㉑ ~ ㉒ I/O 입출력 단자

MGW SERIES

IoT Gateway



특장점

통신 프로토콜 컨버터 기능 제공 (다수의 통신 드라이버 지원)

HMI와 동일한 전용 통신 프로토콜(주소 기반 PLC)
라이브러리 제공

표준 DIN Rail / VESA 홀 제공

표준 DIN Rail 및 VESA 홀 제공으로 손쉽게 장착 가능

TOP Design Studio 소프트웨어로 구현 가능

자사 HMI/SCADA를 사용했던 사용자가
동일한 소프트웨어로 쉽게 구현 가능

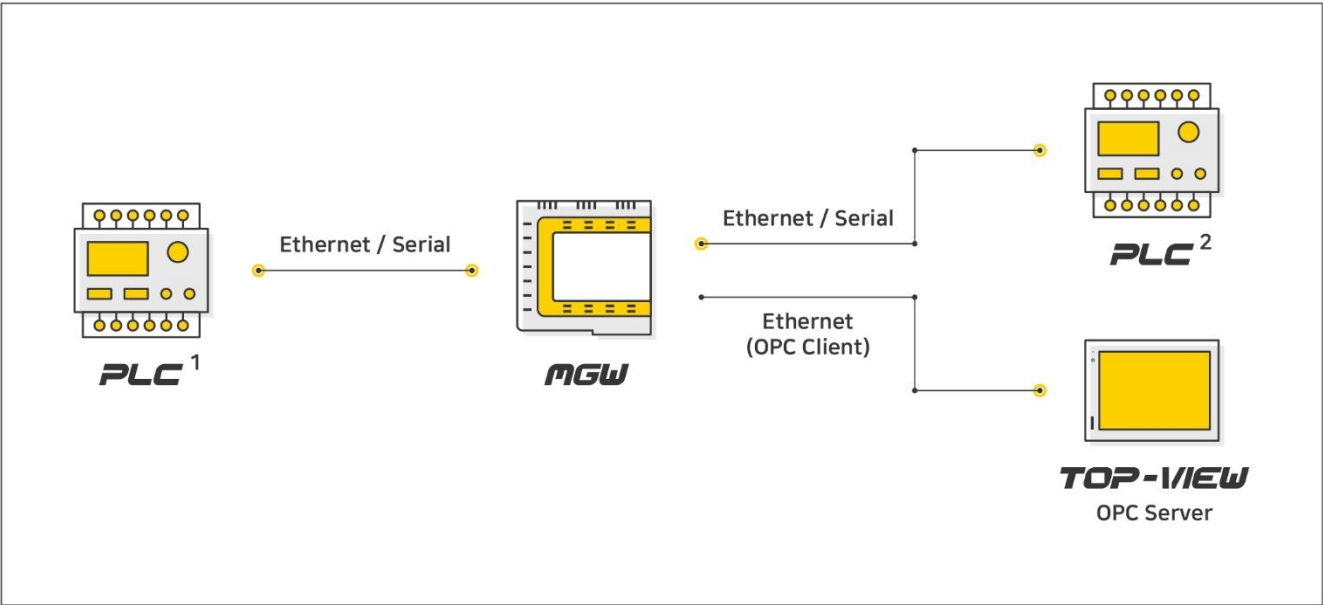
이더넷 및 시리얼 2포트 지원

서로 다른 IP를 가진 이기종 네트워크 지원
COM1/2 DSUB 9핀 제공(RS-232C, RS-422/485)

HDMI 출력

다양한 모니터와 HDMI로 편리하게 연결
엠투아이 전용 터치 모니터(MDP)와 호환

MGW 연결도

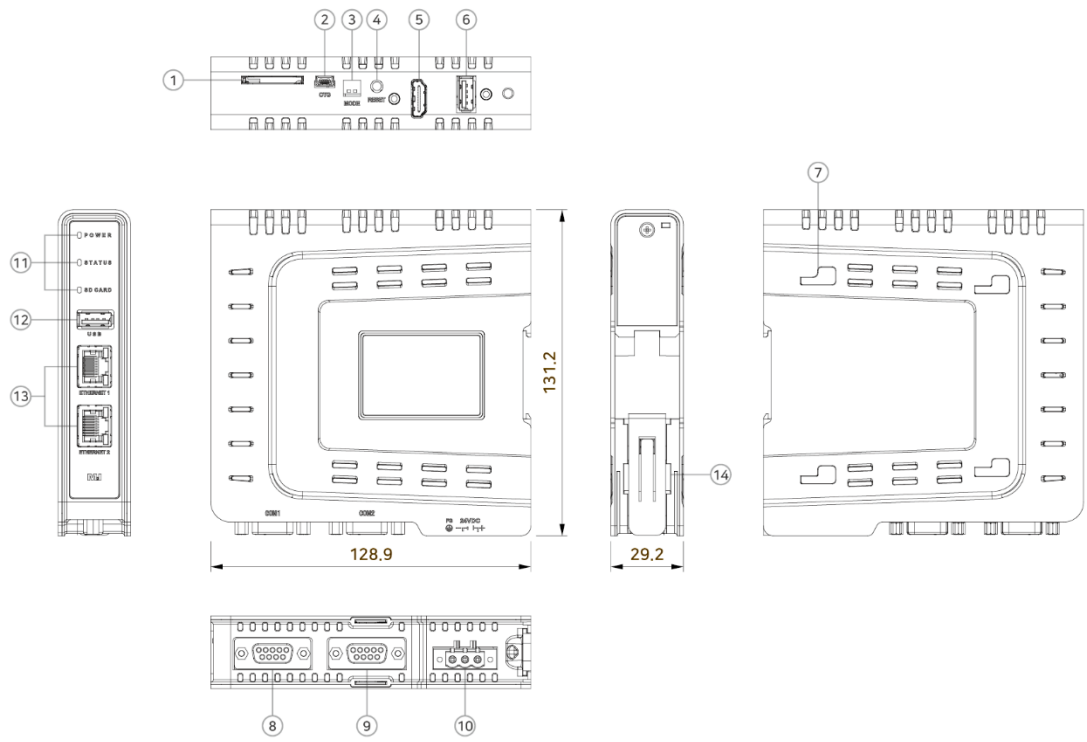


MGW SPECIFICATIONS

Functional		MGW-BH1000D
Interface	Serial COM1	RS-232C, RS-422/485 Asynchronous +5Vdc PWR Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1
	Serial COM2	RS-232C, RS-422/485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1
	Ethernet	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: RJ-45 x 2
	USB Host	USB 2.0 Compatible, Output 5Vdc/0.5A Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Type A x 2
	USB OTG	USB 2.0 Compatible, Output 5Vdc/0.5A, Max 3m Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Mini-B x 1
	SD Card	SD Card Slot x 1, SDHC(MAX 32GB)
	HDMI Output	HDMI v1.4, HDMI Output, Max. Resolution: 1280x720 at 60Hz Connector: HDMI x 1
	Printer	Roll Printer(EPSON protocol)
	Screen Memory	128MB
Memory & Others	Backup Memory	512KB: System buffer(10K Word), Including Alarm/Logging/Recipe
	Backup Period	Permanent
	Real Time Clock	Built in
	Status LED	3 LEDs(Power, Operation, SD Card) Built in
Power	Input Voltage	20~28Vdc
	Power Consumption	10W
	Voltage Sag	24Vdc, Within 10ms
	Insulation Resistance	500Vdc, 10MΩ
Environment	Operation Temperature(°C)	-10 ~ +50
	Storage Temperature(°C)	-20 ~ +60
	Operation Humidity(%RH)	0 ~ 90(No dew)
	Atmosphere	No corrosive gas
	Vibration Endurance	Amplitude: 10≤F<25Hz(2G) X,Y,Z each direction(for 30 minutes)
	Noise Immunity	1000Vp-p(Pulse width 1μs)
	Electrostatic Discharge	Connective discharge from EN61000-4-2: ±4kV
	Shock Endurance	10G X,Y,Z each direction(for 3 times)
	Ground Connection	Class 3(100Ω or less)
	Protection Classification	IP20
Structure	Certification	CE, KC, UL, cUL
	External Dimension(mm)	128.9x131.2x29.2
	Weight(kg)	0.23
	Installation Method	Standard DIN Rail(35mm), VESA
	Cooling System	Natural air circulation
	Case Material	Plastic

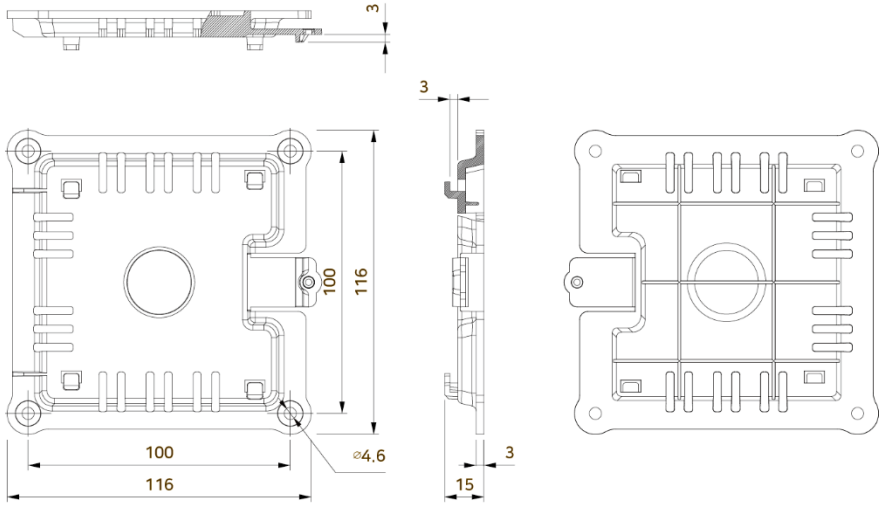
DRAWING

MGW-BH1000D



- ① SD Card Socket
- ② USB OTG
- ③ Mode Switch
- ④ Reset Switch
- ⑤ HDMI
- ⑥ USB Host #1
- ⑦ Vesa Bracket
- ⑧ Serial COM1
- ⑨ Serial COM2
- ⑩ Power Input
- ⑪ Status LED
- ⑫ USB Host #2
- ⑬ Ethernet Port
- ⑭ DIN Rail

VESA Braket(*Option)



MSR SERIES

MSR-B2MWA / MSR-B2MWB

UL LISTED (완료)
CE (진행 중)



특장점

- 강하고 편안한 디자인**

충격에 강한 설계와 우레탄 외형
그립감이 우수하고 휴대성이 높은 소형 디자인
고정 스트랩 제공
- 유무선의 다양한 인터페이스**

2.4GHz RF 무선 통신(USB 동글 연결)
USB 통신(USB 케이블 연결)
IrDA 적외선 통신(자사 HMI와 전용 통신)
- 바코드 데이터 안전한 관리**

1D, 2D 바코드 지원
최대 25,000개 바코드를 저장할 수 있는 메모리 탑재로
안전한 데이터 관리
- 효율적인 동작 시간 운용**

완충 시 13시간 작동 가능한 배터리 제공
절전 기능 제공

인터페이스

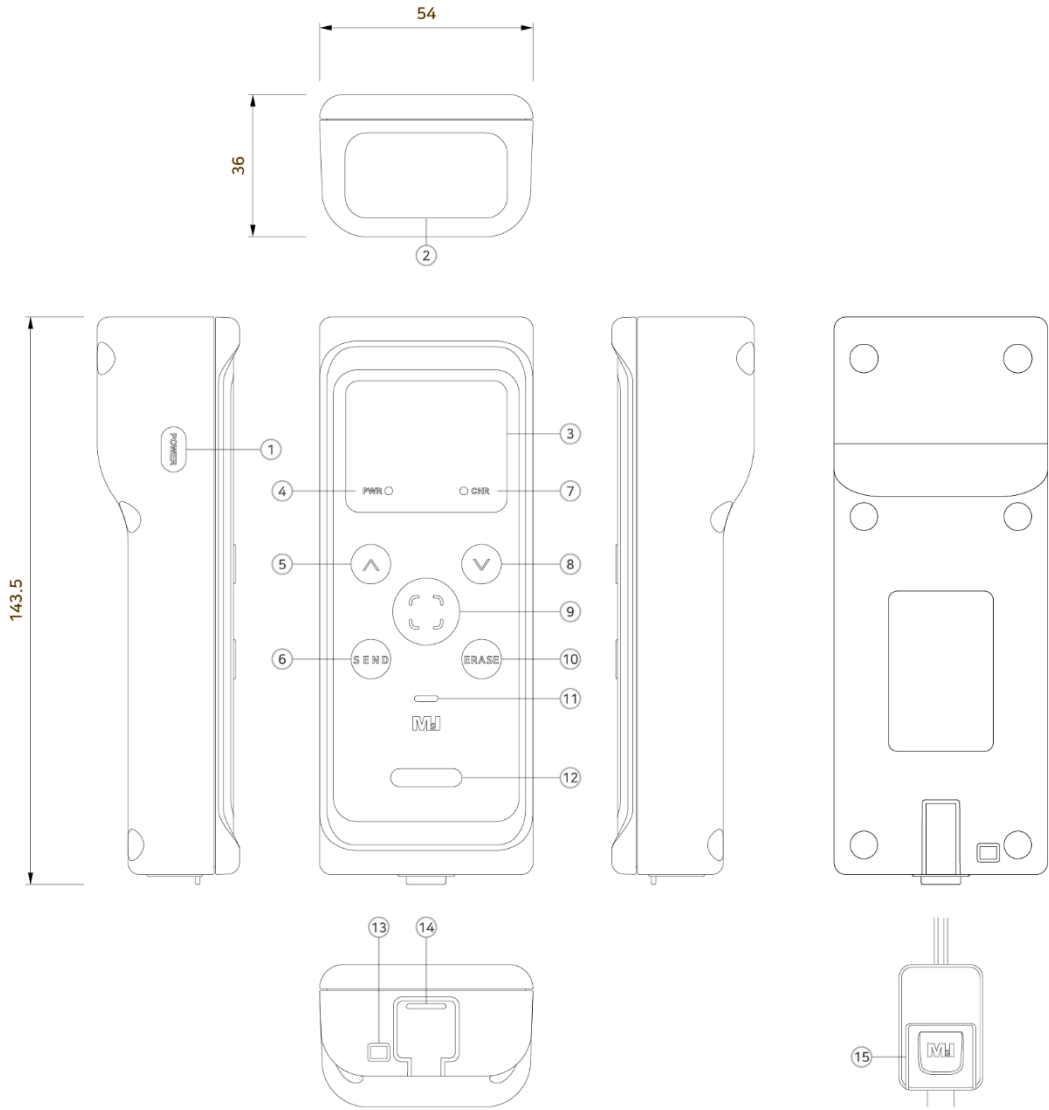


MSR-B2MWA/B SPECIFICATIONS

	Functional	MSR-B2MWA	MSR-B2MWB	MSR-B2MWA-DONGLE
Display	Display Type	1.3" OLED		-
	Color	Gray		Gray
	Display Area(mm)	31.42 x 16.7		-
	Resolution(dot)	128 x 64		-
	Display Life	50,000 Hours		-
Barcode	Type	640 x 400, 1D/2D Barcode	1280 x 960, 1D/2D Barcode	-
	Symbologies	Code 39, Code 128, PDF417, UPC, Data Matrix, QR Code		-
Interface	USB	USB Type C, V1.1 Compatible 1 Channel		USB A Type, V1.1 Compatible 1 Channel
	IrDA	Compliant to IrDA Physical Layer Standard Up to 115.2 kbit/s(SIR), Range Up to 1.0M in Open Space Connection with M2I HMI Equipment		-
	2.4GHz RF	2322MHz to 2527MHz, IEEE 802.15.4, Range Up to 15M in Open Space		-
	Function Key	Unlock Type Push Switch 6EA (Power/Scan/Send/Erase/Up/Down)		-
	Storage Memory	512KB		-
Battery	Rechargable Battery	Single Li-ion 3.7Vdc 1800mAh Operating Time: 13 Hours Charging Time: 5.5 Hours(Non-Operating)		-
Power	Consumption	3W		1W
Environment	Other	2 LEDs(Power, Charge) Built in		-
	Operation Temperature(℃)	+10 ~ +45		-10 ~ +50
	Storage Temperature(℃)	-20 ~ +60		-20 ~ +60
	Protection Classification	Product Body IP67		-
	Operation Humidity(%RH)	0 ~ 90(No Dew)		-
	Atmosphere	No Corrosive Gas		-
	Vibration Endurance	Amplitude: 10≤F < 25Hz(2G) X, Y, Z each Direction(for 30 Minutes)		-
	Static Electricity Discharge	Connective Discharge from EN61000-4-2: ±4kV		-
	Shock Endurance	10G X, Y, Z each Direction(for 3 Times)		-
	Certification	KC, UL(Completed) / CE(In Progress)		-
Structure	External Dimension(mm)	143.5 x 54 x 36		28.8 x 18 x 8
	Weight(kg)	0.18		0.03
	Case Material	PC, Urethane		PC

DRAWING

MSR-B2MWA / MSR-B2MWB



- | | | | |
|-------------------|-------------|-------------|------------------------|
| ① 전원 스위치 | ⑤ Up 스위치 | ⑨ Scan 스위치 | ⑬ 스트랩 고정홀 |
| ② 스캐너 창 및 적외선 송수신 | ⑥ Send 스위치 | ⑩ Erase 스위치 | ⑭ 후면 덮개 |
| ③ OLED | ⑦ 충전 상태 표시등 | ⑪ 부저홀 | ⑮ USB Dongle (스트랩에 포함) |
| ④ 전원 표시등 | ⑧ Down 스위치 | ⑫ 상태 표시등 | |

MSR SERIES

MSR-B2MWA-Ex



특장점

KCs(Ex ib IIC T4 Gb), Zone1 사용 가능

안전증 방폭 구조

UL/cUL: Class 1, Division 2 Groups A,B,C,D, T6
IECEX, ATEX, KCs: Ex ic ec IIC T6(In Progress)

강하고 편안한 디자인

충격에 강한 설계와 우레탄 외형
그립감이 우수하고 휴대성이 높은 소형 디자인
고정 스트랩 제공

다양한 인터페이스 제공

PC 또는 모바일과 Bluetooth 페어링
IrDA 적외선 통신(자사 HMI와 전용 통신)

바코드 데이터 안전한 관리

1D, 2D 바코드 지원
LED로 전송 상태 확인
최근 10개까지 바코드 데이터 저장

인터페이스



2.4GHz Bluetooth LE 무선 통신
2.4GHz Bluetooth LE, Range Up to 5M+ in Open Space

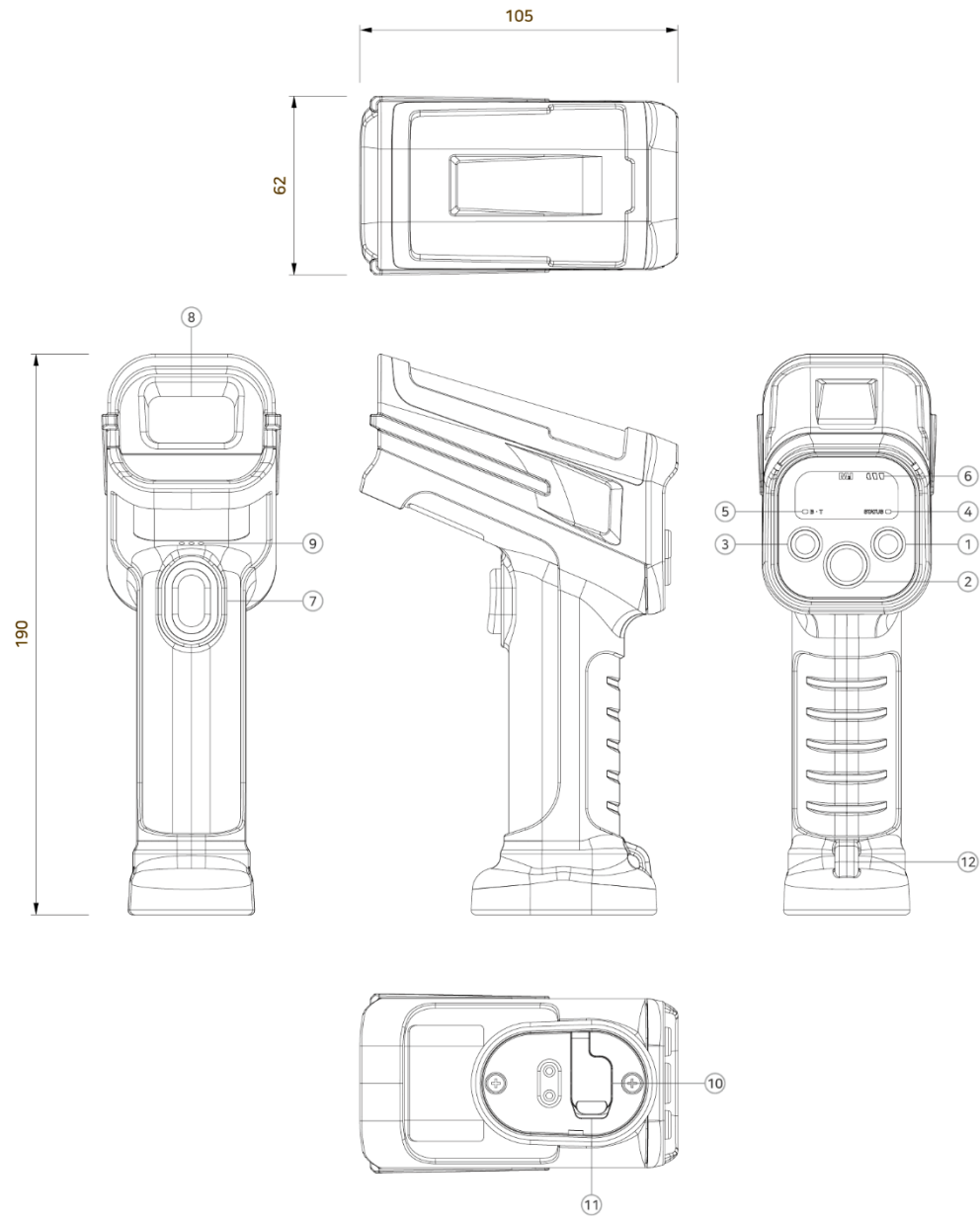


MSR-B2MWA-Ex SPECIFICATIONS

Functional		MSR-B2MWA-Ex
Display	Display Type	LED
	Indicators	Bluetooth, Status, Battery Gauge
Barcode	Type	640 x 400 1D/2D CMOS Barcode
	Symbologies	Code 39, Code 128, PDF417, UPC, Data Matrix, QR Code
USB		USB Type C, Charge Only
Interface	IrDA	Compliant to IrDA Physical Layer Standard Up to 115.2 kbit/s(SIR), More than 0.5M in Open Space Connection with M2I HMI Equipment
	2.4GHz RF	2402MHz to 2480MHz, Bluetooth 5.2 LE, Range Up to 5M in Open Space
	Function Key	Unlock Type Push Switch 4EA(Power/Bluetooth/Send/Scan)
Battery	Rechargable Battery	Single Li-ion 3.6Vdc, 2500mAh Operating Time: 6+ Hours(18000+,1Second interval) Charging Time: 5 Hours(Non-Operating) Standby On: 29+ Hours
Power	Consumption	3W
	Operation Temperature(℃)	-10 ~ +50
	Storage Temperature(℃)	-20 ~ +60
	Protection Classification	IP66
	Operation Humidity(%RH)	0 ~ 90(No Dew)
	Atmosphere	No Corrosive Gas
	Vibration Endurance	Amplitude: 10≤F < 25Hz(2G) X, Y, Z each Direction(for 30 Minutes)
	Static Electricity Discharge	Connective Discharge from EN61000-4-2: ±4kV
	Shock Endurance	10G X, Y, Z each Direction(for 3 Times)
	Certification	KC, CE, UL/cUL in Hazloc(Completed) IECEX, ATEX, KCs(In Progress)
Structure	External Dimension(mm)	188.9 x 100.1 x 60.3
	Weight(kg)	0.416
	Case Material	PC, Urethane

DRAWING

MSR-B2MWA-Ex



- ① 전원 스위치

② Send 스위치

③ 블루투스 스위치

④ 상태 표시등
- ⑤ 블루투스 표시등

⑥ 배터리 레벨

⑦ Scan 스위치

⑧ 스캐너 창 및 적외선 송수신
- ⑨ 부저홀

⑩ 하부면 덮개

⑪ USB-C 포트 충전 단자

⑫ 스트랩 고정홀

국내외 사업망



20여 개 이상 해외 대리점

중국, 일본, 싱가포르, 인도, 터키, 베트남, 이스라엘, 말레이시아, 태국, 그리스, 프랑스, 이란, 요르단 등



전국 36여 개의 국내 대리점

서울, 경기, 대전, 대구, 광주, 울산, 창원, 부산 등

고객과의 약속

- 약속 하나 고객과의 대화 | 고객이 먼저, 고객 옆에서
- 약속 둘 지속적인 성장 | 끊임없는 연구개발, 신뢰성과 생산성 향상
- 약속 셋 새로운 변화 | 스마트공장자동화 글로벌 리더로의 변화

고객 만족을 위해 늘 고객과 대화하겠습니다.
끊임없는 연구개발로 제품의 품질을 향상시키겠습니다.
변화를 두려워하지 않겠습니다.

스마트한 시대, 스마트한 당신의 경쟁력 TOP