

# MD-1224P-L2

Heavy Duty Industrial Purpose  
 Parking-lot Management System Purpose  
 Dual Channel Loop Inductive Detector  
 Pack-Unit™

[ 접점(Photo-MOS Relay)출력, 이동류 검지용 ]

## FEATURES

### General Features

- Industrial purpose dual channel inductive loop vehicle detector.
- Algorithm optimized for parking vehicle detect purpose.
- Heavy duty high reliable surge protection scheme.
- Single DC power operation
- 1U Shelf / Chassis direct mountable
- 8HP-3U or 6U EURO Card mountable
- Flame retardant case (난연성 외함 적용)

### Special Features

- Line surge protection with TVSS
- 2KV isolated DAA
- ±15kV (IEC1000) ESD protected DTE interface
- DC Power input surge protection(TVSS)
- Hardware method loop head status monitoring function
- Automatic environment factor compensation algorithm
- Easy configuration setting with dip switch
- 주요 용도 : 주차 차단기 동작 제어용 센서, 주차 ZONE 유입/유출량 검지, 번호판 인식기 Trigger용

## SPECIFICATIONS

### Operating Mode

- Presence mode operation  
: Realtime presence mode vehicle detect operation.



### Detect Algorithm Feature

- Parking vehicle detect purpose optimized
- Active environment compensation algorithm

### System Interface

- Photo-MOS Relay contact output for each channel.

### Power

- Single DC Source : +12~30V DC  
@12V DC : 120mA (typ.) consumption (per unit)  
@24V DC : 65mA (typ.) consumption (per unit)
- Optional AC-adaptor(power pack) for AC source available.

### Physical Dimensions

- 122W x 46D x 36H (mm)

### Weight

- 0.12 kg (typ.)

### Environmental

- Temperature : -34°C to +74°C (Operating)  
: -40°C to +80°C (Storage)
- Relative humidity : up to 95% (non-condensing)

### Detect Core characteristics

- Sensitivity Setting : 4 Steps
- Loop Inductance : 30-2000uH
- Vehicle speed : 0-200Km/hour±10%
- Real Time Loop Head Status Monitoring
- Line Isolation : 2.0KV

**DESCRIPTION**

**PACK-UNIT™ Series**

PACK-UNIT™ 시리즈는 DCS, SCADA, ITS, TCS, CTC, General TMTC 등 산업용 제어 시스템 운용 현장에서, BASE SOLUTION의 성능 및 신뢰성 향상을 위하여 다년간 노력하고 경험한 [MORU Industrial Systems]의 창의적 기술과 Know-How를 집약하여 된, 새로운 개념의 Industrial base solution Unit입니다.

특히 낙뢰, Surge, 열악한 온/습도 환경, AC 누설 전류 등으로 인한 수많은 Trouble, 그리고 기구적 거치 공간 및 거치 방법의 문제 등을 해결하기 위하여, 기존의 설계 관행 일체를 탈피하고, 다만 산업용 시스템의 현장상황에 근거한 Concept을 새로이 정립하여 설계한 [산업용 base solution Unit] 시리즈입니다.

**INTERFACE PIN CONFIG.**

**PORT1-2 (system interface) pin config. (6P-non screw Terminal Block)**

	NAME	DESCRIPTION
6	OUT-CH1-A	Photo-MOS Relay Contact.(무극성) - 접유:ON / 비접유:OFF
5	OUT-CH1-B	- On resistance : 30ohms (max.) - On Current : 50mA (max.)
4	OUT-CH2-A	- 접점 허용 전압 : 30V (max.)
3	OUT-CH2-B	* Floating된 High Speed Dry Contact Photo MOS Relay 출력.
2	GND	GROUND
1	HVCC	DC-INPUT ( 12~30V )

\* PIN 1 : LOWER SIDE , PIN 6 : UPPER SIDE

**DC-IN Jack config. ( 2P DC JACK)**

	NAME	DESCRIPTION
1	12~30V	OUTSIDE
2	GND	CENTER PIN

**LED display function ( 4EA ; dual color LED )**

	NAME	DESCRIPTION
1	PWR	R HVCC INPUT STATUS
		G INTERNAL +5V STATUS
2	CH1 STAT	R CH1 VEHICLE STATUS
		G CH1 LOOP HEAD STATUS
3	CH2 STAT	R CH2 VEHICLE STATUS
		G CH2 LOOP HEAD STATUS
4	STAT	R -
		G FLICKER

**PORT3 (loop head interface) pin config. (6P-non screw Terminal Block)**

	NAME	DESCRIPTION
1	HD_CH1 A	LOOP HEAD CH1 - A
2	HD_CH1 B	LOOP HEAD CH1 - B
3	HD_CH2 A	LOOP HEAD CH2 - A
4	HD_CH2 B	LOOP HEAD CH2 - B
5	N.C.	-
6	FGND	FRAME GROUND

\* PIN 1 : UPPER SIDE , PIN 6 : LOWER SIDE

\* LOOP HEAD CONNECTION PIN [A - B] CAN BE SWAPPED. (NO POLARITY)

**DIP Switch config. ( 8Pt. )**

	NAME	DESCRIPTION
1	TIMEOUT - H	OFF(H)/ OFF(L) : NO LIMIT OFF(H)/ ON (L) : 3분
2	TIMEOUT - L	ON (H)/ OFF(L) : 10분(출하시) ON (H)/ ON (L) : 30분
3	OP. CH. SEL	OFF : Dual Ch. Operation ON : Single CH. Operation (CH1 output to CH1&2)
4	-	Must Off (factory test용)
5	-	Must Off (factory test용)
6	SENS-H	OFF(H)/ OFF(L) : LOW OFF(H)/ ON (L) : NORMAL(출하시)
7	SENS-L	ON (H)/ OFF(L) : HIGH ON (H)/ ON (L) : VERY HIGH
8	RESET	OFF: NORMAL , ON : RESET

\* DIP 1 : LEFT SIDE, DIP 8 : RIGHT SIDE

**FRONT SIDE 4Pin Interface Connector config. (2.54mm Pitch Female Connector)**

	NAME	DESCRIPTION
1	GND (LEFT)	Signal Ground
2	CH1_LOOP_STA	LOOP HEAD STATUS
3	CH2_LOOP_STA	FAIL : Low NORMAL : High (Open Collector)
4	TXD-RS232 (RIGHT)	Loop Status Serial Output

\* Loop Status Serial Output Protocol (Every 1sec output)  
STX(0x02), "MD-1224P-L2=", CH1\_LOOP\_STA, CH2\_LOOP\_STA, ETX(0x03)  
- Total 16bytes  
- CH1\_LOOP\_STA / CH2\_LOOP\_STA  
: '0' when Loop Fail , '1' when Normal

**Industrial Communication Leader**  
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\* 성능 향상을 위하여, 예고 없이 제품 사양이 변경될 수 있습니다.

