

전자식 캠 리미트스위치 & 컨트롤러

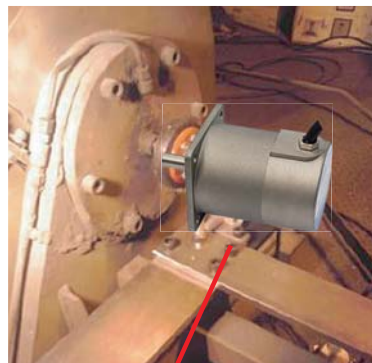
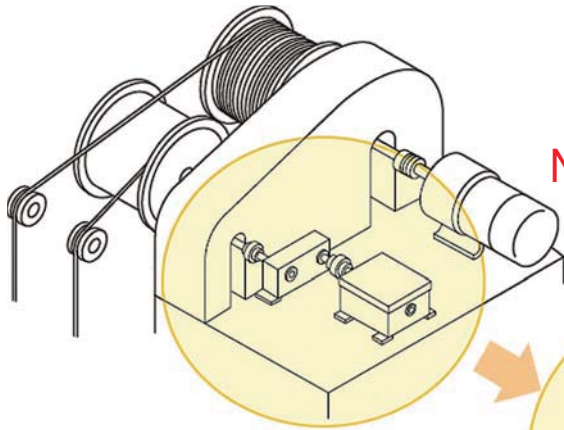
Electronic CAM Limit Switch & Controller

특허출원



이젠 와이어로프 교체시 캠 리미트스위치를 분리하지 않아도 됩니다

Now you do not need to remove
the cam limit switch when
replacing the wire rope.



◆ 특징 (Features)

- 이동 거리 및 위치데이터 검출.
Detect movement distance and position data.
- 간편 조작으로 위치값 설정.
Set position value by simple operation.
- 위치 데이터에 따라 스위치 출력.
Switch output according to position data.
- 자동화 크레인 및 대차류의 위치 제어용 캠 리미트 대체용으로 적합.
Suitable for replacing cam limit for automation crane and bogie position control.
- 캠의 별도 조정 필요 없이 프리셋 기능으로 원점 설정 가능.
Origin can be set with preset function without need to adjust cams separately.
- 상위 PLC 기종에 구애 받지 않도록 설정 가능.
Can be set to be independent of upper PLC type.
- Relay 7점(NO, NC)과 상태확인용 Relay 1점의 접점 출력.
Relay 7 points (NO, NC) and contact output of relay 1 point.
- Relay 14점(NC)과 상태확인용 Relay 1점의 접점 출력.
Relay 14 points (NC) and contact output of relay 1 point.
- 2가지 전원 (AC/DC) 선택가능.
Two power (AC/DC) selectable.

◆ 일체형 (Integral Type)



◆ 분리형 (Separation Type)



◆ Controller Specifications

1) AC Type

MODEL	WJ-VSM (Multi Type)	WJ-VSS (Single Type)	
전원 전압 (Power supply voltage)	85 ~ 264VAC (±5%)		
소비 전력 (Power Consumption)	10W 이하		
사용 주위 온도 (Ambient temperature)	0 ~ +55°C (No freezing)		
사용 주위 습도 (Ambient humidity)	20 ~ 95%RH (No condensation)	20 ~ 90%RH (No condensation)	
보존주위온도 (Storage ambient temperature)	-25 ~ +70°C	-10 ~ +70°C	
사용주위환경 (Environment of use)	There should not be much dust without corrosive gas.		
접지 (Grounding)	Class 3 ground (Class D)		
위치 검출 방식 (Position detection method)	Absolute method		
위치 검출 축수 (Number of position detection axis)	1 axis		
출력 신호 샘플링 시간 (Output signal sampling time)	Switch output : 1ms	Switch output : 0.176ms	
스위치 출력 설정 방법 (Switch output setting method)	Numerical setting from the panel or teaching		
최소 설정 단위 (Minimum setting unit)	0.00001	0.5	
위치 설정 범위 (Position setting range)	-999999~999999		
설정값 저장 (Setting value memory)	비휘발성메모리 (FRAM)		
입력 설정 (Input setting)	Preset - 1 , Error Reset - 1 Point	Error Reset - 1 Point	
출력 설정 (Output Setting)	7 POINT	1a1b (NO,NC) Variable relay output 7 Point	
		1a1b (NO,NC) System ready relay output 1Point	
	14 POINT	1b (NC) Variable relay output 14 Point	-
		1a1b (NO,NC) System ready relay output 1Point	-

2) DC Type

MODEL	WJ-VSM (Multi Type)	WJ-VSS (Single Type)	
전원 전압 (Power supply voltage)	24VDC (±5%)		
소비 전력 (Power Consumption)	10W 이하		
사용 주위 온도 (Ambient temperature)	0 ~ +55°C (No freezing)		
사용 주위 습도 (Ambient humidity)	20 ~ 95%RH (No condensation)	20 ~ 90%RH (No condensation)	
보존주위온도 (Storage ambient temperature)	-25 ~ +70°C	-10 ~ +70°C	
사용주위환경 (Environment of use)	There should not be much dust without corrosive gas.		
접지 (Grounding)	Class 3 ground (Class D)		
위치 검출 방식 (Position detection method)	Absolute method		
위치 검출 축수 (Number of position detection axis)	1 axis		
출력 신호 샘플링 시간 (Output signal sampling time)	Switch output : 1ms	Switch output : 0.176ms	
스위치 출력 설정 방법 (Switch output setting method)	Numerical setting from the panel or teaching		
최소 설정 단위 (Minimum setting unit)	0.00001	0.5	
위치 설정 범위 (Position setting range)	-999999~999999		
설정값 저장 (Setting value memory)	비휘발성메모리 (FRAM)		
입력 설정 (Input setting)	Preset - 1 , Error Reset - 1 Point	Error Reset - 1 Point	
출력 설정 (Output Setting)	7 POINT	1a1b (NO,NC) Variable relay output 7 Point	
		1a1b (NO,NC) System ready relay output 1Point	
	14 POINT	1b (NC) Variable relay output 14 Point	-
		1a1b (NO,NC) System ready relay output 1Point	-

◆ ABSOCODER Specifications

1) Multi Type

MODEL		MRE-G64SP062FAC-FK
회전수 (Total number of thorns)		64
외형 크기 (External Size)		ø62.5
총분해수 (Total number of divisions)		131072(2 ¹⁷)
직선성 오차 (Linearity error) [°Degree]		2 Max
기동 토크 (Starting torque)		4.9 × 10 ⁻² (kgf.cm)
축 허용 하중 (Allowable axial load)	Radial	98N (10kgf)
	Thrust	49N (5kgf)
베어링 수명 / 기계적 허용 회전 속도 (Bearing Life/Permissible mechanical speed)		1.5 × 10 ⁴ , 3600
주위 온도 (Ambient temperature)	사용시 (Operating)	-20 ~ +60°C
	보존시 (Storage)	-30 ~ +90°C
내진동 (Vibration resistance)		2.0 × 10 ² m/s ² 200Hz
내충격 (Shock resistance)		4.9 × 10 ³ m/s ² 0.5ms
보호 구조 (Protection rating)		IP52f
최대 센서 케이블 길이 (Max. sensor cable length)		4P-S (100), 4P-RBT(70)
인출 케이블 길이 (Interconnecting sensor cable)		2m

2) Single Type

MODEL		VRE-P062FAC-FK
회전수 (Total number of thorns)		1
외형 크기 (External Size)		ø62.5
총분해수 (Total number of divisions)		8192(2 ¹³)
직선성 오차 (Linearity error) [°Degree]		1 Max
기동 토크 (Starting torque)		4.9 × 10 ⁻² (kgf.cm)
축 허용 하중 (Allowable axial load)	Radial	98N (10kgf)
	Thrust	49N (5kgf)
베어링 수명 / 기계적 허용 회전 속도 (Bearing Life/Permissible mechanical speed)		5.5 × 10 ⁴ , 3600
주위 온도 (Ambient temperature)	사용시 (Operating)	-20 ~ +60°C
	보존시 (Storage)	-30 ~ +90°C
내진동 (Vibration resistance)		2.0 × 10 ² m/s ² 2000Hz
내충격 (Shock resistance)		4.9 × 10 ³ m/s ² 0.5ms
보호 구조 (Protection rating)		IP52f
최대 센서 케이블 길이 (Max. sensor cable length)		3P-S (100), 3P-RBT(70)
인출 케이블 길이 (Interconnecting sensor cable)		2m

◆ RELAY 입·출력 (Relay Input & Output)

1) AC Type (7 Points)

▶ Multi Type

Pin NO	Signal nam	Pin NO	Signal nam
A1	AC85~264V(L)	B1	AC85~264V(N)
A2	GND	B2	E-RESET
A3	0V	B3	RELAY COMMON
A4	RELAY COMMON	B4	SW1_NO
A5	SW1_NC	B5	SW2_NO
A6	SW2_NC	B6	SW3_NO
A7	SW3_NC	B7	SW4_NO
A8	SW4_NC	B8	SW5_NO
A9	SW5_NC	B9	SW6_NO
A10	SW6_NC	B10	SW7_NO
A11	SW7_NC	B11	RDY_NO
A12	RDY_NC	B12	0V
A13	PRESET	B13	-
A14	-	B14	SIN+
A15	SIN-	B15	COS+
A16	COS-	B16	OUT1+
A17	OUT1-	B17	OUT2+
A18	OUT2-	B18	SHIELD

▶ Single Type

Pin NO	Signal nam	Pin NO	Signal nam
A1	AC85~264V(L)	B1	AC85~264V(N)
A2	GND	B2	-
A3	0V	B3	RELAY COMMON
A4	RELAY COMMON	B4	SW1_NO
A5	SW1_NC	B5	SW2_NO
A6	SW2_NC	B6	SW3_NO
A7	SW3_NC	B7	SW4_NO
A8	SW4_NC	B8	SW5_NO
A9	SW5_NC	B9	SW6_NO
A10	SW6_NC	B10	SW7_NO
A11	SW7_NC	B11	RDY_NO
A12	RDY_NC	B12	0V
A13	E-RESET	B13	-
A14	-	B14	SIN+
A15	SIN-	B15	COS+
A16	COS-	B16	OUT1+
A17	OUT1-	B17	-
A18	-	B18	SHIELD

◆ RELAY 입·출력 (Relay Input & Output)

2) DC Type (7 Points)

▶ Multi Type

Pin NO	Signal nam	Pin NO	Signal nam
A1	+24V	B1	0V
A2	GND	B2	E-RESET
A3	0V	B3	RELAY COMMON
A4	RELAY COMMON	B4	SW1_NO
A5	SW1_NC	B5	SW2_NO
A6	SW2_NC	B6	SW3_NO
A7	SW3_NC	B7	SW4_NO
A8	SW4_NC	B8	SW5_NO
A9	SW5_NC	B9	SW6_NO
A10	SW6_NC	B10	SW7_NO
A11	SW7_NC	B11	RDY_NO
A12	RDY_NC	B12	0V
A13	PRESET	B13	-
A14	-	B14	SIN+
A15	SIN-	B15	COS+
A16	COS-	B16	OUT1+
A17	OUT1-	B17	OUT2+
A18	OUT2-	B18	SHIELD

▶ Single Type

Pin NO	Signal nam	Pin NO	Signal nam
A1	+24V	B1	0V
A2	GND	B2	-
A3	0V	B3	RELAY COMMON
A4	RELAY COMMON	B4	SW1_NO
A5	SW1_NC	B5	SW2_NO
A6	SW2_NC	B6	SW3_NO
A7	SW3_NC	B7	SW4_NO
A8	SW4_NC	B8	SW5_NO
A9	SW5_NC	B9	SW6_NO
A10	SW6_NC	B10	SW7_NO
A11	SW7_NC	B11	RDY_NO
A12	RDY_NC	B12	0V
A13	E-RESET	B13	-
A14	-	B14	SIN+
A15	SIN-	B15	COS+
A16	COS-	B16	OUT1+
A17	OUT1-	B17	-
A18	-	B18	SHIELD

◆ RELAY 입·출력 (Relay Input & Output)

3) AC Type (14 Points_Multi Type)

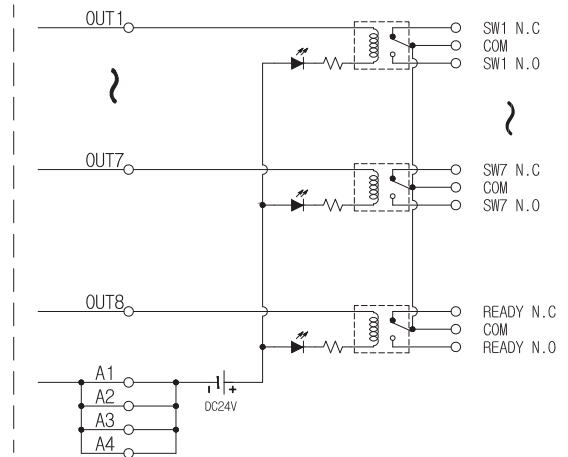
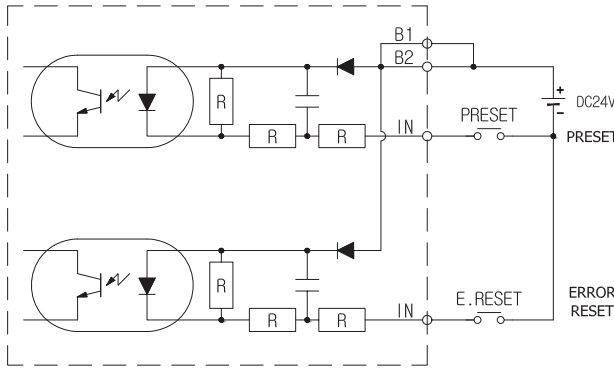
Pin NO	Signal nam	Pin NO	Signal nam
A1	AC85~264V(L)	B1	AC85~264V(N)
A2	GND	B2	E-RESET
A3	0V	B3	RELAY COMMON
A4	RELAY COMMON	B4	SW1_NC
A5	SW2_NC	B5	SW3_NC
A6	SW4_NC	B6	SW5_NC
A7	SW6_NC	B7	SW7_NC
A8	SW8_NC	B8	SW9_NC
A9	SW10_NC	B9	SW11_NC
A10	SW12_NC	B10	SW13_NC
A11	SW14_NC	B11	RDY_NO
A12	RDY_NC	B12	0V
A13	PRESET	B13	RELAY COMMON
A14	RELAY COMMON	B14	SIN+
A15	SIN-	B15	COS+
A16	COS-	B16	OUT1+
A17	OUT1-	B17	OUT2+
A18	OUT2-	B18	SHIELD

4) DC Type (14 Points_Multi Type)

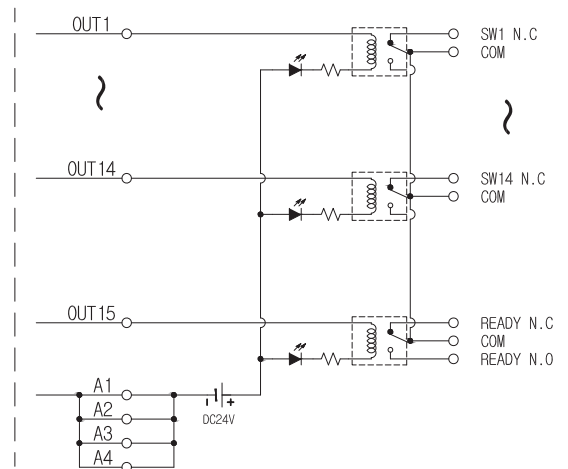
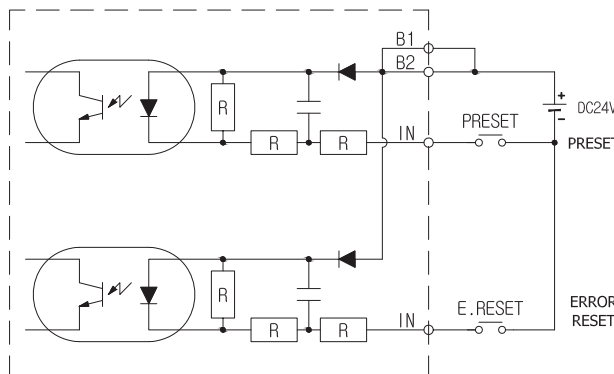
Pin NO	Signal nam	Pin NO	Signal nam
A1	+24V	B1	0V
A2	GND	B2	E-RESET
A3	0V	B3	RELAY COMMON
A4	RELAY COMMON	B4	SW1_NC
A5	SW2_NC	B5	SW3_NC
A6	SW4_NC	B6	SW5_NC
A7	SW6_NC	B7	SW7_NC
A8	SW8_NC	B8	SW9_NC
A9	SW10_NC	B9	SW11_NC
A10	SW12_NC	B10	SW13_NC
A11	SW14_NC	B11	RDY_NO
A12	RDY_NC	B12	0V
A13	PRESET	B13	RELAY COMMON
A14	RELAY COMMON	B14	SIN+
A15	SIN-	B15	COS+
A16	COS-	B16	OUT1+
A17	OUT1-	B17	OUT2+
A18	OUT2-	B18	SHIELD

◆ 입출력회로도(I / O circuit diagram)

1) 7Points

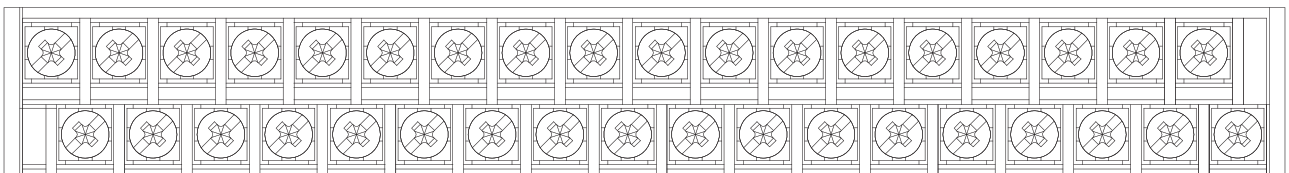


2) 14Points



◆ Terminal Block

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18








◆ 구성도(Configuration)

▶ 일체형 (Integral Type)

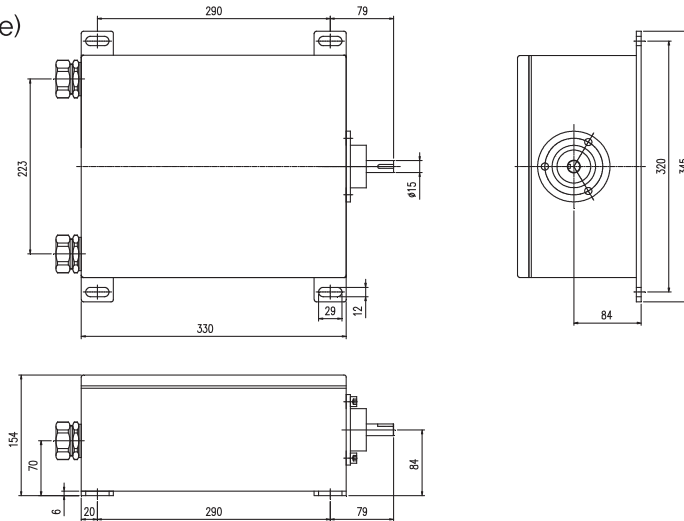


▶ 분리형 (Separation Type)

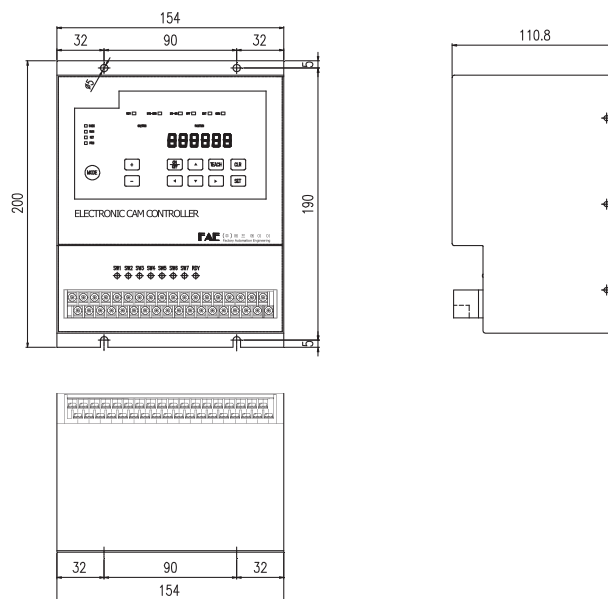
센서측 (Sensor)	연장케이블 (Extension Cable)	제어측 (Controller)
 <p>VRE-P062FAC-FK (NSD사)</p>	 <p>3P-S,3P-RBT (NSD사)</p>	
 <p>MRE-G64SP062FAC-FK (NSD사)</p>	 <p>4P-S,4P-RBT (NSD사)</p>	

◆ 외형도(Outline Dimension)

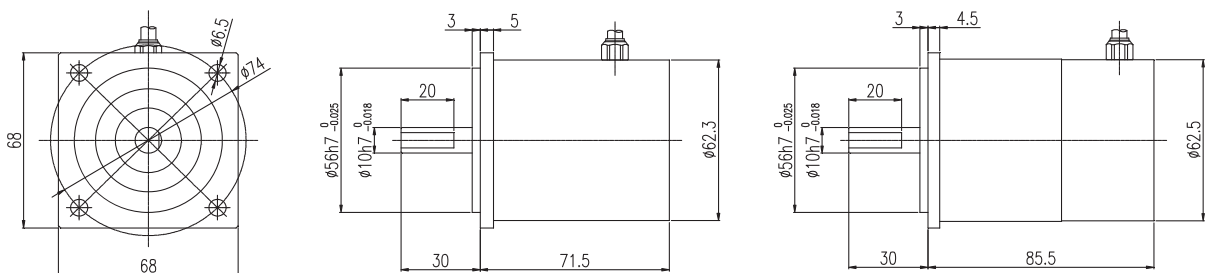
▶ 일체형 (Integral Type)



▶ 분리형 (Separation Type)



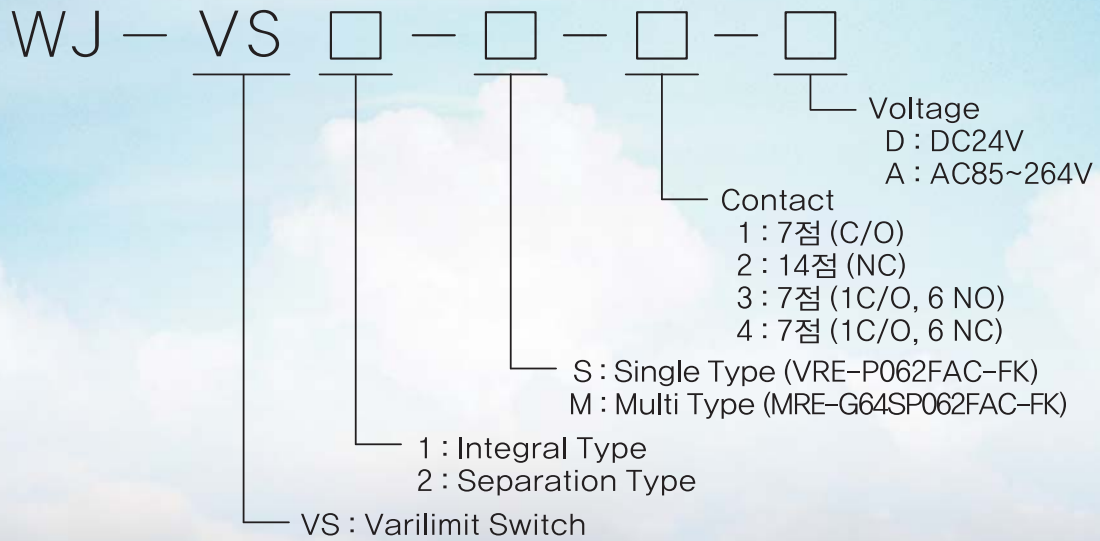
▶ 센서외형도 (Sensor Dimension)



VRE-P062FAC-FK (NSD사)

MRE-G64SP062FAC-FK (NSD사)

◆ 제품선정(Product Selection)



※ Separation Type (Cable & Sensor 는 별도임)



제조원

대리점

FAE (주) 에프에이이
Factory Automation Engineering

전남 광양시 옥곡면 신금로 241

TEL : 061-772-6306

FAX : 061-772-6309

www.pro-fae.co.kr

*본 카다로그에 기재된 사양 · 외형치수 등은 제품의 개선에 의하여 예고없이 개선될 수 있습니다.