IO–Link Expandable relay module
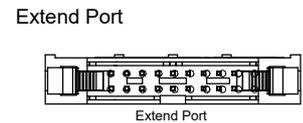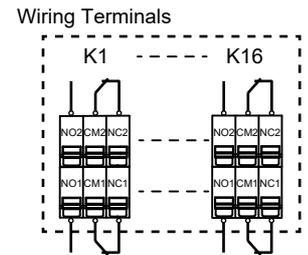
16-Channel Relay Module, DPDT contacts

SIOL–TL–16RM2S   Push-in terminal (non-removable)

278 / 86 / 269.5 / 55 / 35 / 86 / ⌀4.5 / Unit:mm
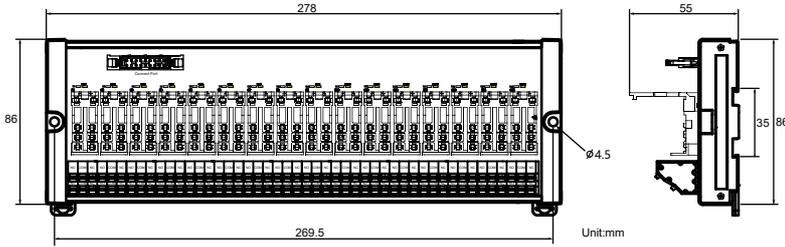
- IO-Link remote I/O device
- 16 channels; 150 mA per point output; expandable
- IO-Link V1.1
- Spring-cage pluggable terminals for both communication and load power
- Relay contacts use push-in terminals
- DIN-35 mm rail mounting or fixed-hole mounting

Model	SIOL-TL-16RM2S
Supply voltage	24VDC ± 10%
Operating current	< 100mA
Supply current	≤4.8A
Output	
Number of Output Points	16
Output Current	150mA
Output Protection Type	Overload Protection, Overheating Protection
Output Protection Response Time	Approx. 20ms
Output Voltage Drop	Approx. 0.6V
Isolation Type	Digital Isolation
Relay Contact Type	Two Normally Open + Two Normally Closed
Relay Contact Capacity (Output Terminal)	4A 250VAC / 4A 30VDC
Relay Coil Voltage	24V
Applicable Relay Model	See "Appendix 1"
IO-Link	
Vendor ID	1317 (0x0525)
Device ID	328481 (0x050321)
Number of Ports	1
IO-Link Protocol Version	V1.1
IO-Link Port Type	Class A (Cage Clamp Terminal)
IO-Link Output Bytes	4 Bytes (Last two bytes unused if no extension)
Frame Type	TYPE_2_V
Transmission Rate	COM2 38.4 kbit/s
Minimum Cycle Time	3200 μs
ISDU (Indexed Service)	Supported
Block Parameter Operation	Not Supported
Data Storage (DS)	Supported
Data Storage Lock	Supported
	Note: This function is supported for compatibility, but the device will not perform the operation
Installation Method	DIN35 Standard Rail Mounting or Fixed Hole
Protection Class	IP20
Operating Temperature	-25 to 55°C

IO-Link Port

1 | 2 | 3
C/Q (IO-Link) | 0V | + 24V

Load Power Port

1 | 2 | 3
NC（未使用） | 0V L | + 24V L

Wiring Terminals

K1 ----- K16

NO2 CM2 NC2 / NO1 CM1 NC1 (K1)
NO2 CM2 NC2 / NO1 CM1 NC1 (K16)

Extend Port

Extend Port
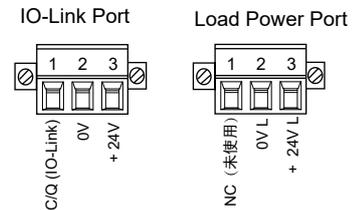
Note:This port adopts a right-angle connector. Use a dedicated cable to connect with the extension modult.Refer to Appendix 2 tor model details.

User Manual
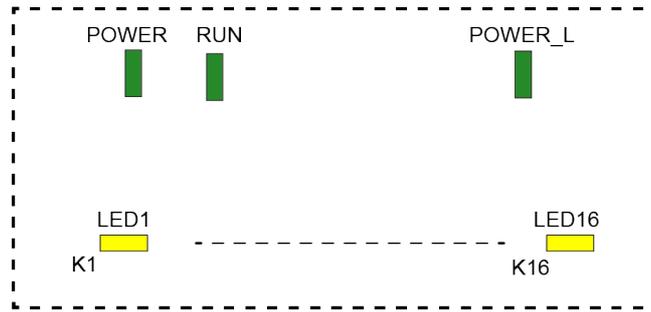
Status LEDs

POWER	Green ON: Module power normal OFF: Module power abnormal.
RUN	Green ON: IO-Link communication normal OFF: Communication not established Flashing: Communication being established, not yet connected.
POWER_L	Green ON: Load power normal; OFF: Load power abnormal.
LED1…LED16	Yellow ON: Signal output active OFF: No signal output.

Process Data

	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
BYTE0	K8	K7	K6	K5	K4	K3	K2	K1
BYTE1	K16	K15	K14	K13	K12	K11	K10	K9
BYTE2	K8 (Extension)	K7 (Extension)	K6 (Extension)	K5 (Extension)	K4 (Extension)	K3 (Extension)	K2 (Extension)	K1 (Extension)
BYTE3	K16 (Extension)	K15 (Extension)	K14 (Extension)	K13 (Extension)	K12 (Extension)	K11 (Extension)	K10 (Extension)	K9 (Extension)

Relay Base Dimensions
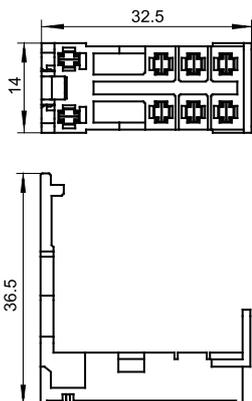
Appendix 1

Brand	Model
OMRON	G2R-2-S☐(S)
HONGFA	HF157F/24-2Z25FD☐☐
IDEC	RJ2S-C☐-D24
DINKLE	RER-J2C-D24

Note: The relay is not included with the product and should be selected by the customer. The above models are for reference

Appendix 2

1.20-core flat cable (length 0.2 m)

BP-20P-0.2

2.20-core connection cable (customizable length L)

MF20 - 1 - PX01

Cable length L
Unit: m

Direct Parameter Page 1

Direct parameters are used to identify the device. Direct parameters are operated through Index 0.

Subindex 0 represents the entire index; Subindex 1 represents address 0; Subindex 16 represents address 0x0F.

Index	Address	Parameter name	Length	Authority	Description
0	0x07 7	Vendor ID(High)	1Byte	Read	0x05 5
0	0x08 8	Vendor ID(Low)	1Byte	Read	0x25 37
0	0x09 9	Device ID(High)	1Byte	Read	0x05 5
0	0x0A 10	Device ID(Median)	1Byte	Read	0x03 3
0	0x0B 11	Device ID(Low)	1Byte	Read	0x21 33

Parameter Data / Request Data / ISDU

Index	Subindex	Parameter name	Length	Authority	Description
0x02 2	0	System command	1Byte	Write	0x80 128 Reset device 0x82 130 Restore factory settings
0x10 16	0	Manufacturer name	8Byte	Read	Sentinel
0x11 17	0	Manufacturer description	41Byte	Read	Sentinel Industrial Ethernet manufacturer
0x12 18	0	Device name	14Byte	Read	SIOL-TL-16RMxS
0x13 19	0	Device ID	8Byte	Read	32848101
0x14 20	0	Device description	47Byte	Read	Relay Module 16 Output and extend max 16 output
0x15 21	0	Serial-Number	10Byte	Read	3284810101
0x16 22	0	Hardware version	8Byte	Read	HW-V0.01
0x17 23	0	Software release	8Byte	Read	FW-V0.01
0x18 24	0	ApplicationSpecific Tag	Maximum 32Byte	Read Write	This item is defined in the IODD file, Included in the DataStorage(DS)
0x19 25	0	Function Tag	Maximum 32Byte	Read Write	This item is not defined in the IODD file, It can be set directly through Index.
0x1A 26	0	Local Tag	Maximum 32Byte	Read Write	This item is not defined in the IODD file, It can be set directly through Index.
0x24 36	0	Device state	1Byte	Read	0: The equipment operating normally; 1: Need to maintain; 2: Running incorrect environment or parameters; 3: Device abeyance; 4: Device failed to run;