WEINTEK

iR Series

iR-ETN40R/P Specifications

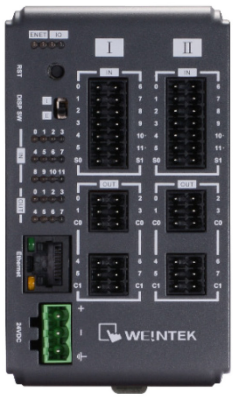


Website: www.weintekiiot.com
Sales: salesmail@weintek.com
Product Support: servicmail@weintek.com

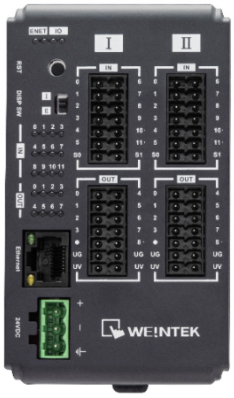
Table of Contents

1. Product Overview 1
2. Specifications 1
3. Wiring 3
   3.1 iR-ETN40R 3
   3.2 iR-ETN40P 5
4. Dimensions 7
   4.1 iR-ETN40R 7
   4.2 iR-ETN40P 8
5. Power Consumption 9

1. Product Overview



iR-ETN40R



iR-ETN40P

2. Specifications

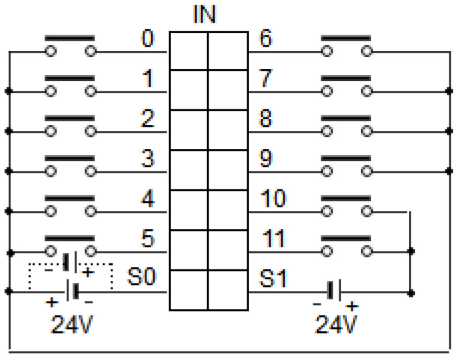
Communication Interface Specifications		
No. of Ports	1	
Data Transfer Rate	10/100 Mbps	
Data Transfer Medium	4 x 2 twisted pair copper cable; category 3 (10 Mbps), category 5 (100 Mbps)	
Distance Between Stations	100 m between hub/switch and Bus Coupler or between Bus Coupler and Bus Coupler	
Protocol	Modbus TCP Server, EtherNet/IP adapter	
Max. Number of TCP/IP Connections	8 connections	
Network to Logic Isolation	Yes	
Digital Output		
Module Name	iR-ETN40R	iR-ETN40P
Total Number of Outputs	16	16
Output Type	Relay	Source
Output Voltage	250VAC/30VDC	11~28VDC
Output Current	2A per channel (Max 8A)	0.5A per channel (Max 4A)
Response Time	10 ms	OFF->ON: 100 µs ON->OFF: 600 µs
Isolation	Yes, electromagnetic isolation	Yes, optocoupler isolation
High-speed Output		
Module Name	iR-ETN40R	iR-ETN40P
Total Number of Outputs	0	2
Output Type	N/A	Source
Output Voltage	N/A	5VDC
Output Current	N/A	50mA per channel
Max. Output Frequency	N/A	40KHz
Isolation	N/A	Yes, optocoupler isolation
Digital Input		
Total Number of Inputs	24	
Isolation	Yes, optical isolation	

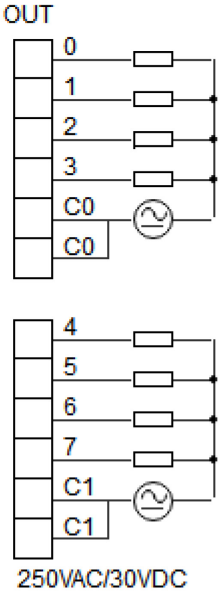
General Input			
Total Number of Inputs		20	
Input Type		Sink or Source	
Logic 1 Input Voltage		15~28 VDC	
Logic 0 Input Voltage		0~5 VDC	
Response Time		OFF->ON: 5 ms ON->OFF: 1 ms	
High-speed Input			
Total Number of Inputs		4	
Input Type		SINK INPUT (PNP)*	
Logic 1 Input Voltage		15~28 VDC	
Logic 0 Input Voltage		0~5 VDC	
Max. Input Frequency		20KHz	
Expansion I/O Module			
Number of Bus Terminals		Depends on Power Consumption (Please see section 5 in this datasheet) The maximum allowable number of iR modules is 16 modules.	
Digital Input Point		Max. 224 (Including 24 built-in points and the max. allowable number is 248 points.)	
Digital Output Point		Max. 112 (Including 16 built-in points and the max. allowable number is 128 points.)	
Analog Input Channel		Max. 64	
Analog Output Channel		Max. 64	
Indicators			
ENET	**Green**	Device Status Indicator	
	Red	Device Error Indicator	
IO	**Green**	Module Status Indicator	
	Red	Module Error Indicator	
General Specification			
Power	**Module Name**	iR-ETN40R	iR-ETN40P
	Power Supply	24 VDC (-15%/+20%)	
	Power Dissipation	Nominal 255mA@24VDC, Max. 540mA@24VDC	Nominal 100mA@24VDC, Max. 530mA@24VDC
	Current for Internal Bus	Max. 2A@5VDC	
	Current Consumption	520mA@5VDC	350mA@5VDC
	Electrical Isolation	Logic to Field Power Isolation: Yes	
	Back-up Fuse	≤ 1.6A Self-recovery	
Mechanical	**Enclosure**	Plastic	
	Dimensions WxHxD	64 x 109 x 81 mm	
	Weight	Approx. 0.27 kg	
	Mount	35mm DIN rail mounting	
Environment	**PCB Coating**	Yes	
	Protection Structure	IP20	
	Storage Temperature	-20° ~ 70°C (-4° ~ 158°F)	
	Operating Temperature	-10° ~ 60°C (14° ~ 140°F)	
	Relative Humidity	10% ~ 90% (non-condensing)	
	Altitude	3,000 m	
	Vibration Endurance	10 to 25Hz (X, Y, Z direction 2G 30 minutes)	
Product Carbon Footprint	**Manufacturing Stage (A1-A3)**	17 kg CO_2e	27 kg CO_2e
Certification	**CE**	CE marked	
	UL	cULus Listed	
	EtherNet/IP	ODVA Conformance Test	

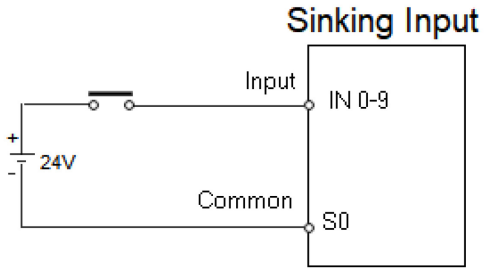
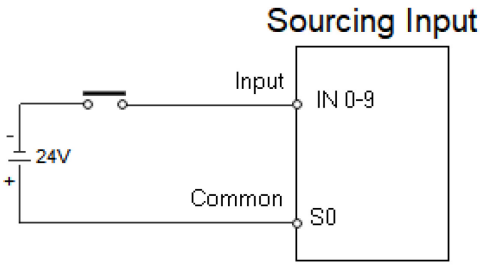
* Refer to wiring diagram - High Speed Input

3. Wiring

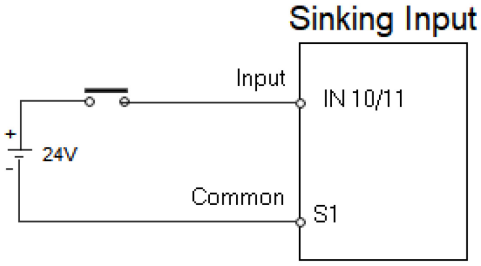
3.1 iR-ETN40R

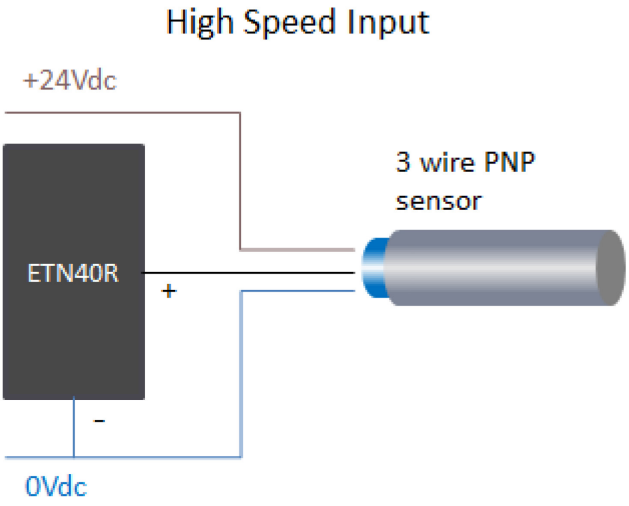




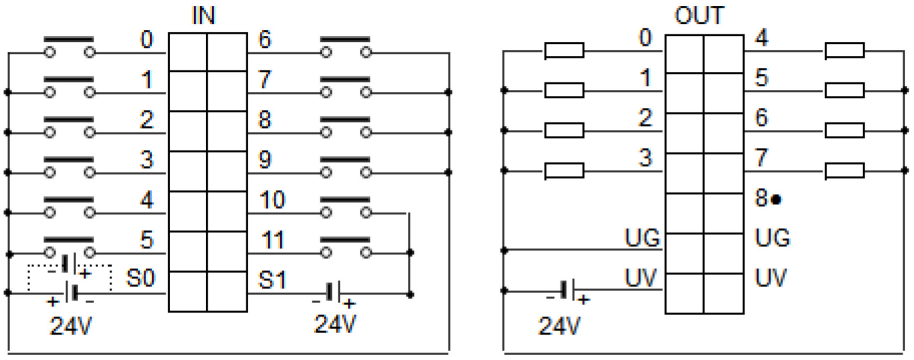
IN 0-9 to Source Output (PNP) Wiring	IN 0-9 to Sink Output (NPN) Wiring
	

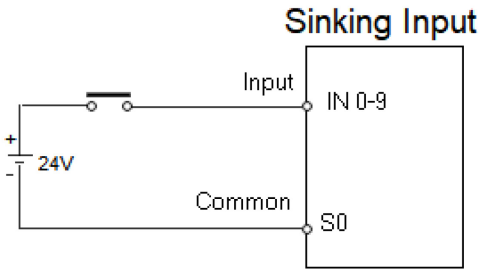
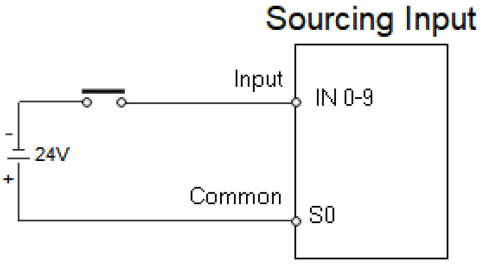
IN 10/11 to Source Output (PNP) Wiring

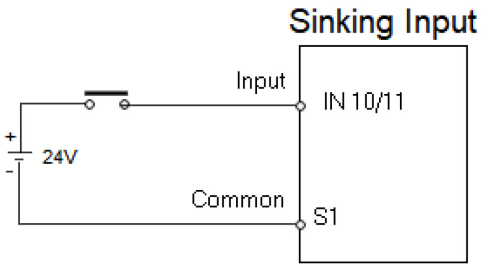


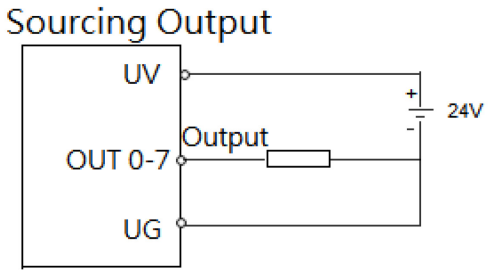
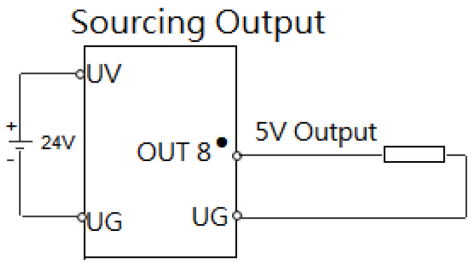

High Speed Input
+24Vdc
3 wire PNP
sensor
ETN40R
+
-
0Vdc

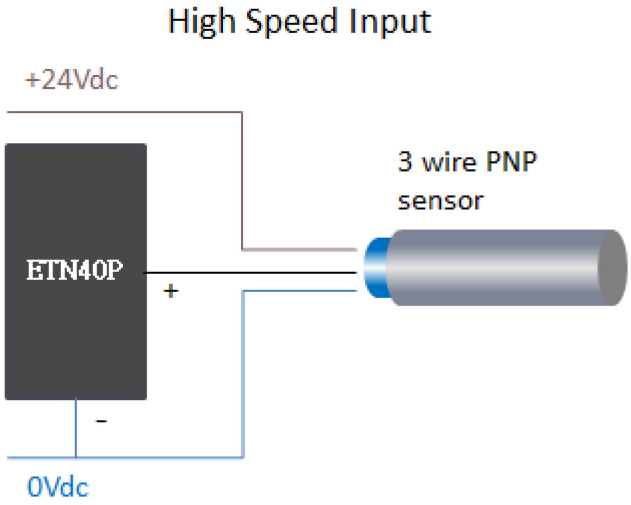
3.2 iR-ETN40P



IN 0-9 to Source Output (PNP) Wiring	IN 0-9 to Sink Output (NPN) Wiring
	

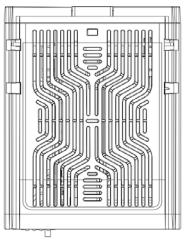
IN 10/11 to Source Output (PNP) Wiring


Source Output Wiring	Source High-speed Output Wiring
	

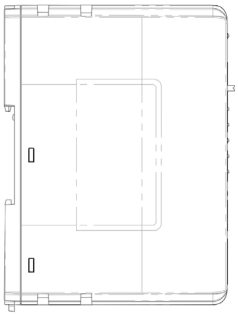

High Speed Input
+24Vdc
3 wire PNP
sensor
ETN40P
+
-
0Vdc

4. Dimensions

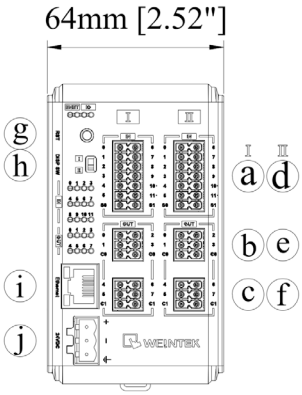
4.1 iR-ETN40R



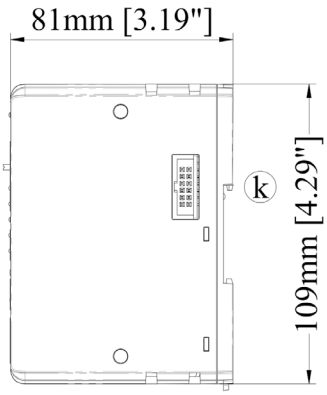
Top View



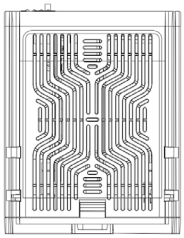
Side View



Front View



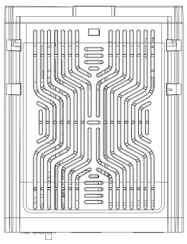
Side View



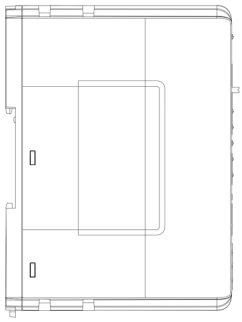
Bottom View

a.d	Input Terminal	*b.c.e.f*	Output Terminal
g	Reset Button	*h*	I/O Display Switch
i	Ethernet Port	*j*	Power Connector
k	Expansion Connector		

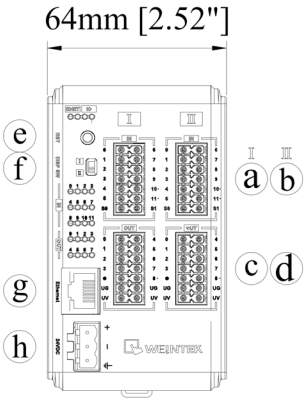
4.2 iR-ETN40P



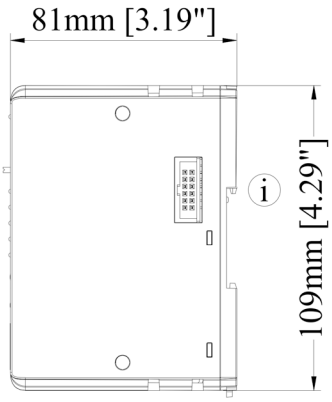
Top View



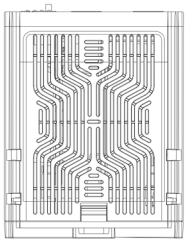
Side View



Front View



Side View



Bottom View

a.b	Input Terminal	*c.d*	Output Terminal
e	Reset Button	*f*	I/O Display Switch
g	Ethernet Port	*h*	Power Connector
i	Expansion Connector		

5. Power Consumption

Type	Device	Consumption(5V)	Power Supply(5V)	Power Consumption(24V)
Coupler	iR-ETN40R	520mA/2.6W	2A/10W	255mA/6.12W
	iR-ETN40P	350mA/1.75W	2A/10W	100mA/2.4W
Digital I/O	iR-DM16-P	130mA/0.65W	--	53mA/1.27W
	iR-DM16-N	130mA/0.65W	--	56mA/1.34W
	iR-DQ08-R	220mA/1.1W	--	84mA/2.02W
	iR-DQ16-N	205mA/1.02W	--	78mA/1.87W
	iR-DQ16-P	196mA/0.984W	--	75mA/1.80W
	iR-DI16-K	83mA/0.418W	--	31mA/0.74W
Analog I/O	iR-AQ04-VI	65mA/0.325W	--	25mA/0.60W
	iR-AI04-VI	70mA/0.35W	--	27mA/0.65W
	iR-AM06-VI	70mA/0.35W	--	27mA/0.65W
	iR-AI04-TR	65mA/0.325W	--	25mA/0.60W
Motion	iR-PU01-P	108mA/0.54W	--	85mA/2.04W

Note:
The coupler is the only power supply for the modules in this system. Please consider power requirements when connecting multiple modules.

ex.1 Connecting six iR-DQ08-R, total number of points: 48+16(built-in) = 64 points, output type: relay

Device	Name	Consumption (2A/5V)
Coupler	iR-ETN40R	520mA
Module	iR-DQ08-R *6	220mA*6=1.32A
System	Power consumption：$0.520\text{A} + 1.32\text{A} = 1.840\ \text{A}$ Power supply: $2\text{A} > 1.840\text{A}$	

ex.2 Connecting five iR-DI16-K and five iR-DQ16-P

Total number of Input points: 80+24(built-in) = 104 points

Total number of Output points: 80+16(built-in) = 96 points

Device	Name	Consumption (2A/5V)
Coupler	iR-ETN40R	520mA
Module	iR-DI16-K *5	83mA*5=415mA
	iR-DQ16-P *5	196mA*5= 980mA
System	Power consumption：$520 + 415 + 980 = 1915\text{mA}$ Power supply: $2\text{A} > 1.915\text{A}$	