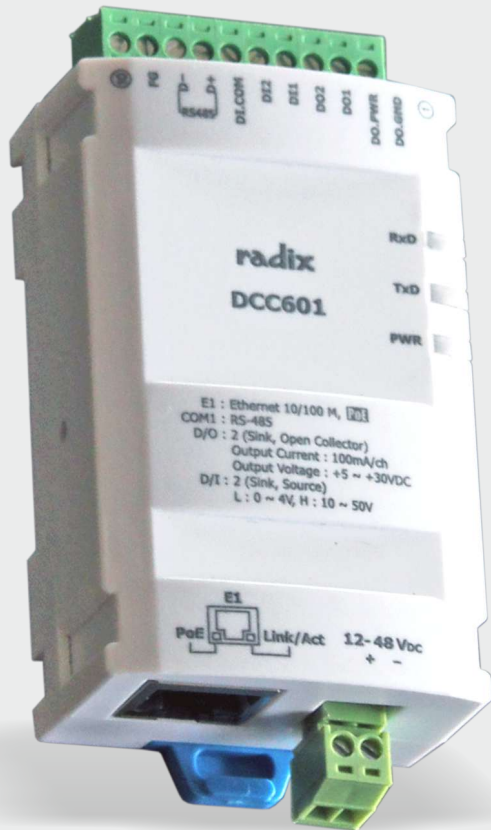


ETHERNET I/O MODULE

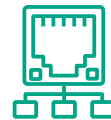
DCC601



2 Inputs



2 Outputs



RS485 port
for I/O expansion

- 2 inputs : Digital, Frequency, Counter
- 2 outputs : Digital, PWM
- 10/100 Mbps Ethernet port
- Automatic MDI/MDI-X detection for plug-and-play
- Browser based configuration utility
- HTTP, UDP, DHCP, TCP MODBUS protocols
- Supports MODBUS TCP Client/Server
- Serial Interface : RS485
- 7 simultaneous MODBUS TCP masters
- Configurable baud rate, parity, stop bits, IP address, TCP client/server port number
- 12~48 VDC power supply
- I/O pair connection
- Default parameters : Can be restored by pressing reset switch at power ON
- Mounting : DIN rail / surface
- Redundant power inputs: PoE (IEEE 802.3af, Class 1) and power terminals

ABOUT DCC601

DCC601 is an IP based Ethernet I/O Module for monitoring and controlling applications. It can be operated over a LAN and has a variety of Input/Output functions. The module can be remotely controlled through a 10/100 M Ethernet network using the MODBUS TCP protocol. MODBUS is the de facto standard communications protocol, and is now the most commonly available means of connecting industrial electronic devices. This makes DCC601 ideal for integration with HMI, SCADA, PLC and other software systems.

It has 2 opto-isolated digital input ports if wet contact OR 2 non-isolated digital input if dry (Potential free) contacts which can be configured as digital inputs (eg limit switches), counter inputs (eg flowmeter pulses) or frequency inputs. It also has two opto-isolated digital output ports which can be configured as digital outputs (eg to operate a relay) or PWM outputs (eg to generate a variable voltage). Digital outputs are open collector type with 100mA sinking capacity for each channel. DCC601 reads digital inputs and writes digital outputs either from a local web page or by using MODBUS TCP on SCADA software. It also has an RS485 port which is used to convert MODBUS TCP to MODBUS RTU protocol. DCC601 supports MODBUS TCP Client / Server protocol.

DCC601 has a pairing function. This allows one DCC601 to be paired with another DCC601, or any other equivalent instrument of another make. After pairing, the input of the first instrument is recreated as the output of the second.

DCC601 offers true IEEE 802.3af-compliant (classification, Class 1) Power Over Ethernet (PoE) functionality using a standard Category 6 Ethernet cable to receive power from a PoE switch such as the Netgear model FS108Pv3. If a PoE switch is not available, the module will also accept power input an external power supply (12 to 48 VDC).

CONNECTION DIAGRAM

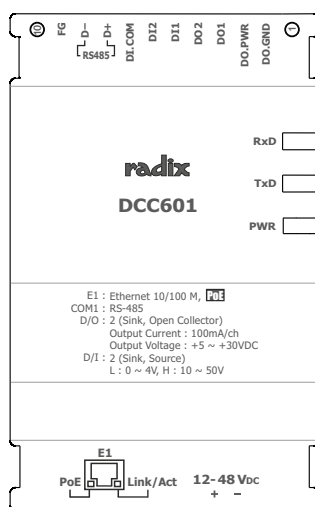


Fig 1

TABLE 1 - CONNECTION DETAILS

Terminal No.	Terminal Name	Details
1	DO.GND	Ground terminal of external supply for output
2	DO.PWR	Power terminal of external supply for output
3	DO1	Open collector Output 1
4	DO2	Open collector Output 2
5	DI1	Wet OR Dry contact Input 1
6	DI2	Wet OR Dry contact Input 2
7	DI.COM	Common terminal for Input1 and Input2
8	D+	RS485 Data+
9	D-	RS485 Data-
10	FG	Frame Ground
	+	12 ~ 48 VDC
	-	
	E1	RJ45 socket with PoE

TABLE 2 - LED DETAILS

Name	Details
RXD	RS485 Receive
TXD	RS485 Transmit
PWR	Power ON

ETHERNET I/O MODULE

DCC601

SPECIFICATIONS

All specifications at ambient of 25 °C, unless specified otherwise

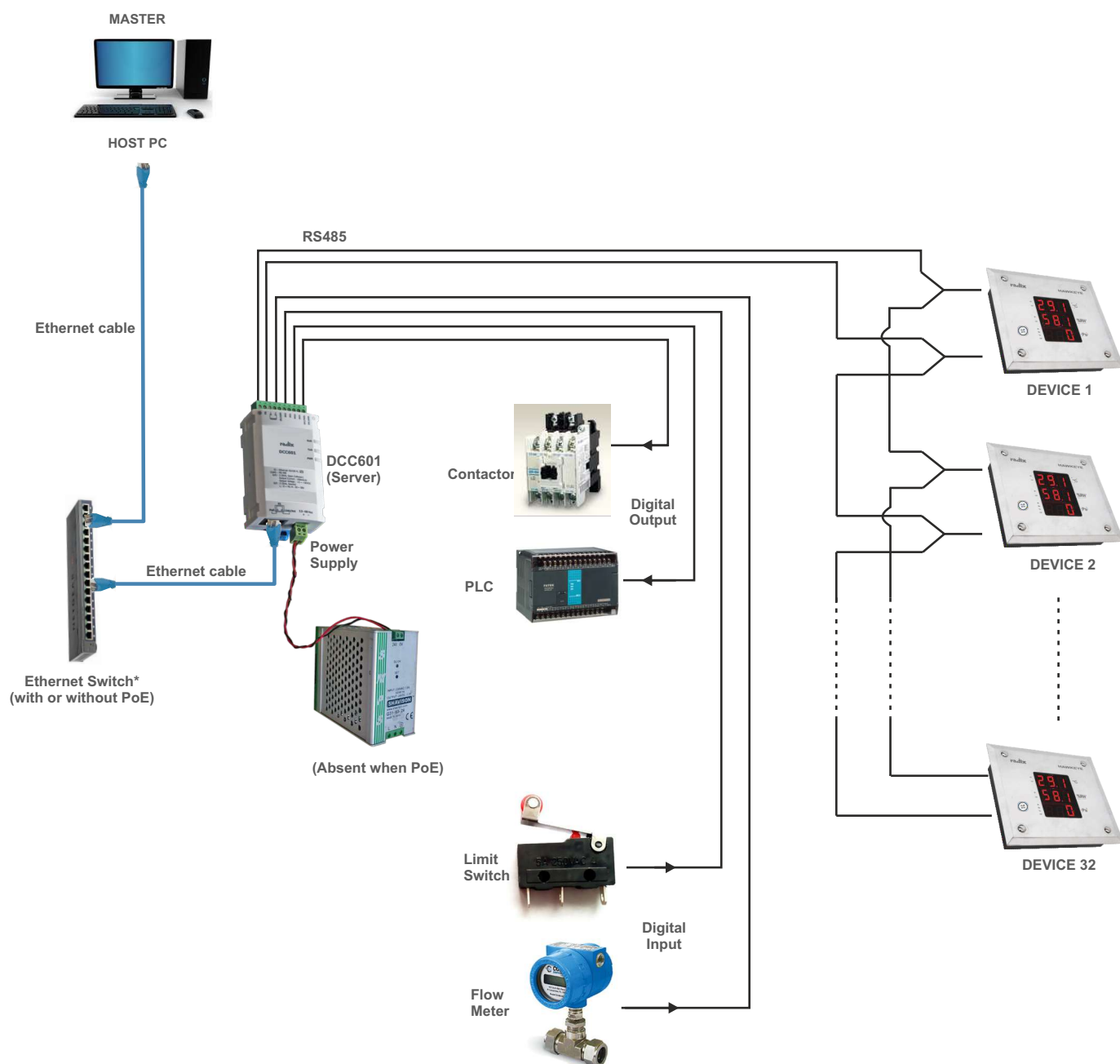
SYSTEM	
CPU	32 bit MCU
COMMUNICATION INTERFACE	
Ethernet	10/100 Base-TX, 8-pin RJ-45X1, (Auto-negotiating, LED indicator)
	PoE (IEEE 802.3af, Class 1)
Utility software	Browser based configuration utility
Ethernet protocol	HTTP, UDP, DHCP, TCP MODBUS protocols
Serial protocol	MODBUS RTU
COM1	2-wire RS485
Self-tuner	Yes (automatic RS485 direction control)
COM PORT FORMAT	
Baud rate (bps)	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Data bit	8
Parity	None, Odd, Even
Stop bit	1, 2
DIGITAL INPUT	
Option 1	
Input type	Wet contact - sink type (with potential)
On voltage level	+10 VDC ~ +50 VDC
Off voltage level	+4 VDC max
Input impedance	10KΩ
Counter input frequency	5KHz
Option 2	
Input type	Dry contact (Potential free)
On input	Short
Off input	Open
Counter input frequency	100Hz max
DIGITAL OUTPUT	
Output type	Open collector (NPN)
Output voltage	+5 VDC ~ +30 VDC
Max. load current	100mA/channel
PWM	100Hz max (The high as well as low duty cycle range = 5 ~ 65, 535 milliseconds)

SPECIFICATIONS

All specifications at ambient of 25 °C, unless specified otherwise

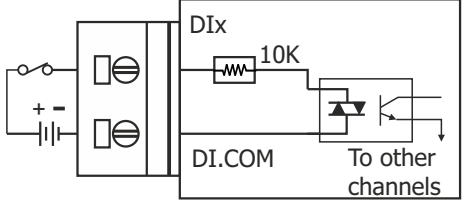
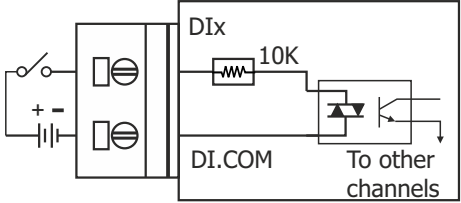
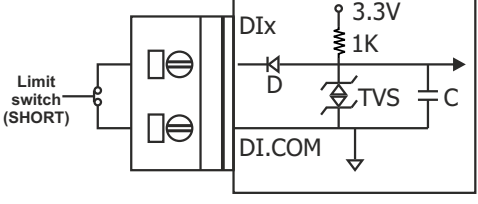
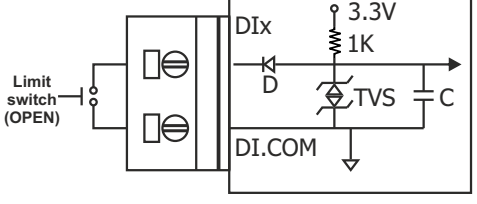
ISOLATION	
With external power supply (without PoE)	
Mutual, between inputs, outputs, power supply & ethernet	2000 VAC RMS, 1minute (Note: If digital input is Dry contact then no isolation)
Between inputs	Not provided
Between outputs	Not provided
Between RS485 and power supply	Not provided (Common ground)
With PoE (no external power supply)	
Mutual, between inputs, outputs and power supply	2000 VAC RMS, 1minute
Mutual, between power supply, ethernet and RS485	Not provided (Common ground)
POWER	
Power Input (Power Terminal)	12 ~ 48 VDC
Power consumption	0.05A @24 VDC
MECHANICAL	
Enclosure material	ABS
Mounting	a) Snap on for 35mm DIN rail to DIN 46277 b) Surface
Dimensions (in mm) (See Fig2)	30(H) X 48.3(W) X 97.9(L)
ENVIRONMENTAL CONDITIONS	
Operating temperature	0 to 65°C
Storage temperature	-30 to 80°C
Ambient relative humidity	10 to 90% (non-condensing)

APPLICATIONS

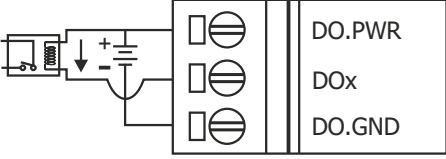
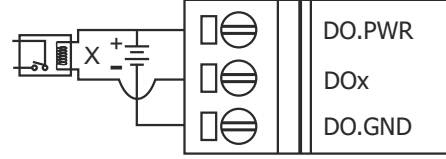


CONNECTION DIAGRAM

INPUT WIRING

Input Type	Read as 1	Read as 0
Wet contact (with potential)	+10 ~ +50 VDC	Open or <4 VDC
		
Dry contact (Potential free)		

OUTPUT WIRING

Output Type	Read as 1	Read as 0
Load (Relay shown)	Relay ON	Relay OFF
		

ETHERNET I/O MODULE

DCC601

DIMENSIONS mm

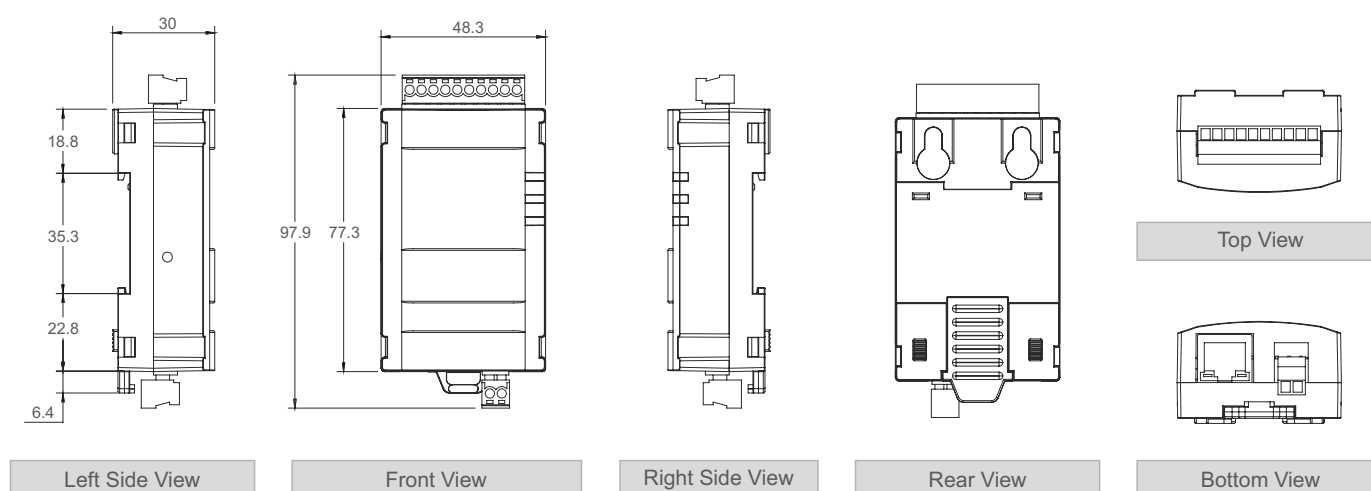


Fig 1

ORDERING INFORMATION

Example	2642	0	0	2642 0 0
Order code	2642			
PoE		0		Without PoE
		1		With PoE
Input type			0	Wet contact (with potential)
			1	Dry contact (Potential free)

ENQUIRIES

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