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MCE_P1R44F-021 : Electrical Connections Manual

1. Information

1.1 Release

			
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01	New manual		11/30/2022

1.1.1 Specifications

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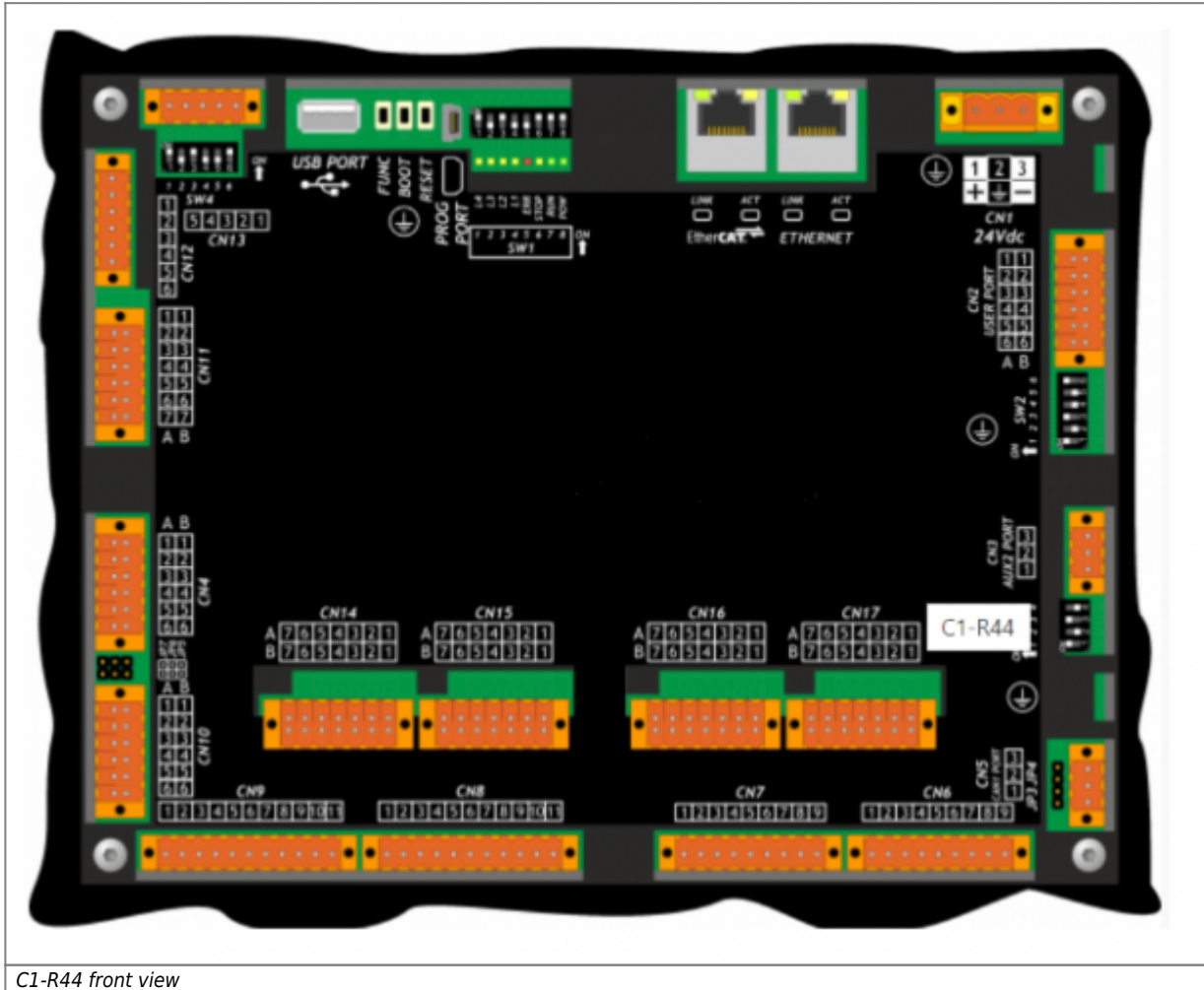
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2. Hardware and Connections

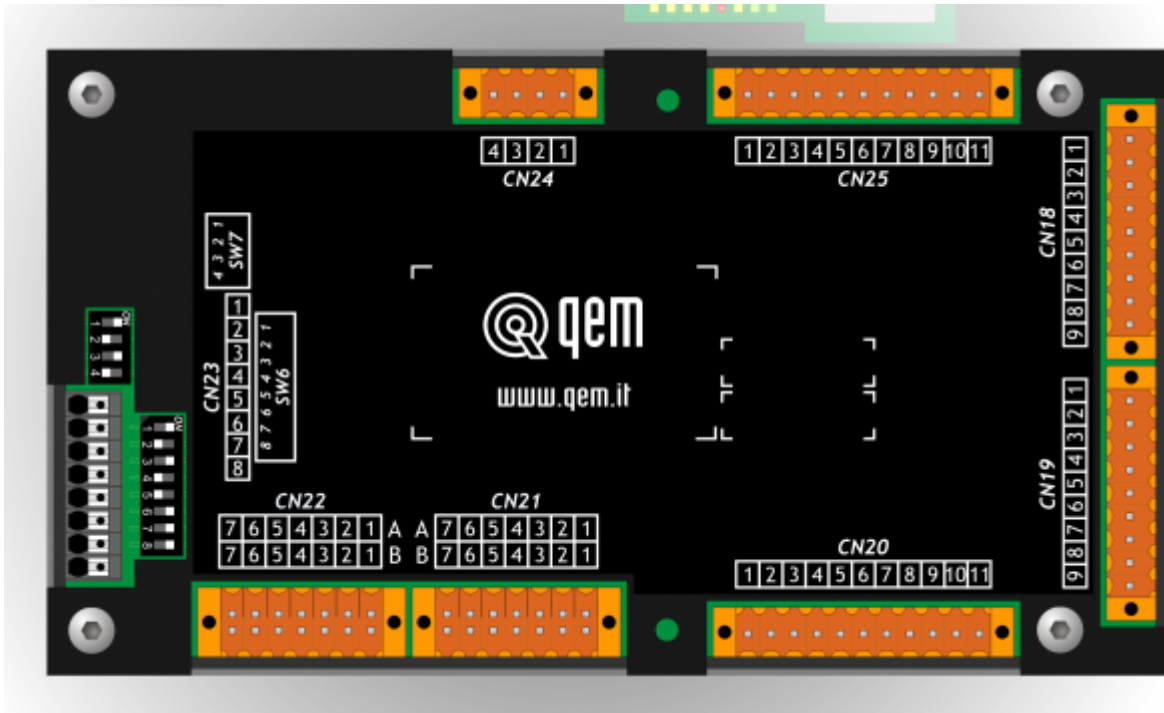
The device models used for this application are as follows:

- **C1-R44-FF30**: Automation logic and motion control CPU unit;
- **A1-IPC-TC101 + IQ023/A/USB/50** : Industrial Panel PC with display 10.1" and capacitive touch-screen + inputs.
- **RMC-3M B01 DD /I16/I16/I16/I16/0/24 Vdc**: Multiple board remote input module;
- **RMC-3M C01 D5 /P16/P16/P16/P16/P16/24 Vdc**: Multiple board remote output module;

2.1 C1-R44-FF30



C1-R44 front view

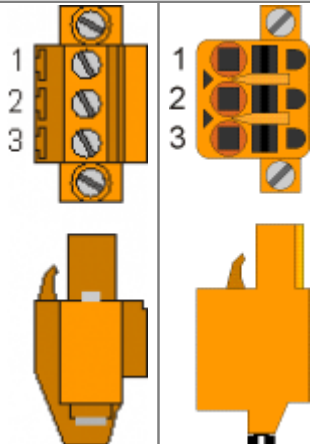


Expansion 1MG2F

2.1.1 C1-R44: Power supply

2.1.1.1 C1-R44: CN1

The instrument must be powered at 24Vdc. Provide an external fuse in series with the positive conductor +24Volt.

CN1		Terminal	Symbol	Description
	1	1	+	Positive Power
	2	2	EARTH	Earth-PE (signals)
	3	3	—	0V power supply

2.1.2 Connectivity

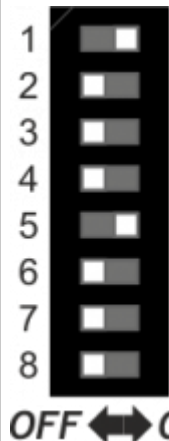
- PROG PORT → Serial with standard TTL logic for programming.
- USER PORT → Multistandard serial (RS232, RS422, RS485).
- RS485 AUX PORT → Multistandard serial (RS232, RS422, RS485).
- ETHERNET PORT → RJ45 connector
- CAN PORT → Canbus type “fieldbus”.

2.1.2.1 ETHERNET port

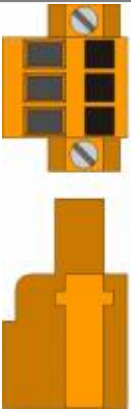
ETHERNET PORT	Descrizione
	Connettore RJ45. LED: * LINK: led verde = cavo collegato (il led acceso indica che il cavo è connesso ad entrambi i capi) * DATA: led giallo = scambio dati (il led lampeggiante indica lo scambio dati tra i dispositivi collegati)

2.1.2.2 PROG PORT and USER PORT baud-rate selector

SET CAN TRANSMISSION SPEED 500 KB/S

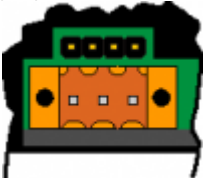
SW 1	Dip	DIP setting				Function
	1	OFF	Baud rate 57600			Transmission speed selection PROG PORT
		ON	Baud rate 115200			
	2	OFF	Baud rate 57600			Baud rate selection USER PORT
		ON	Baud rate 115200			
	3	OFF	Can also be used by SERCOM and MODBUS			devices Operating mode selection PROG PORT
		ON	Not usable by SERCOM and MODBUS devices			
	4	OFF	ON	OFF	ON	CANbus baud rate (CanOpen)
		ON	OFF	ON	ON	
	5	Baud rate 125KB/S	Baud rate 250KB/S	Baud rate 500KB/S	Baud rate 1MB/S	
	6	OFF	MMC/SD			External media device selection in system functions
		ON	USB			
	7	Reserved for internal use. Leave OFF				
	8	OFF	PROG PORT normal			Select the USER PORT as PROG PORT
		ON	PROG PORT on the USER PORT			connector :::

2.1.2.3 C1-R44: CN5 - CAN PORT

CN5	Terminal	Symbol	Description
	1	0V	Common CAN
	2	CANL	CAN terminal L
	3	CAN H	CAN terminal H

2.1.2.4 Termination resistor setting

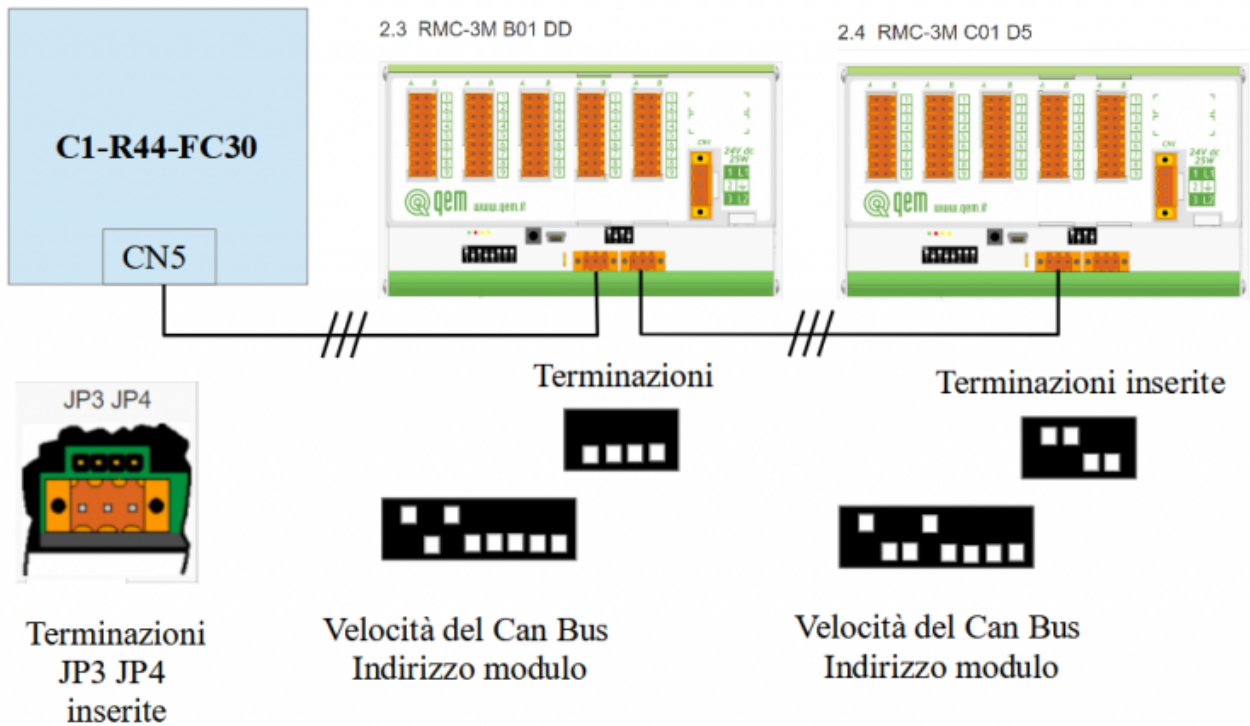
Check [CAN connection](#) to determine the activation of the termination resistor

	Name jumper	Setting	Function
	JP3	ARMED	CAN termination activated
	JP4		

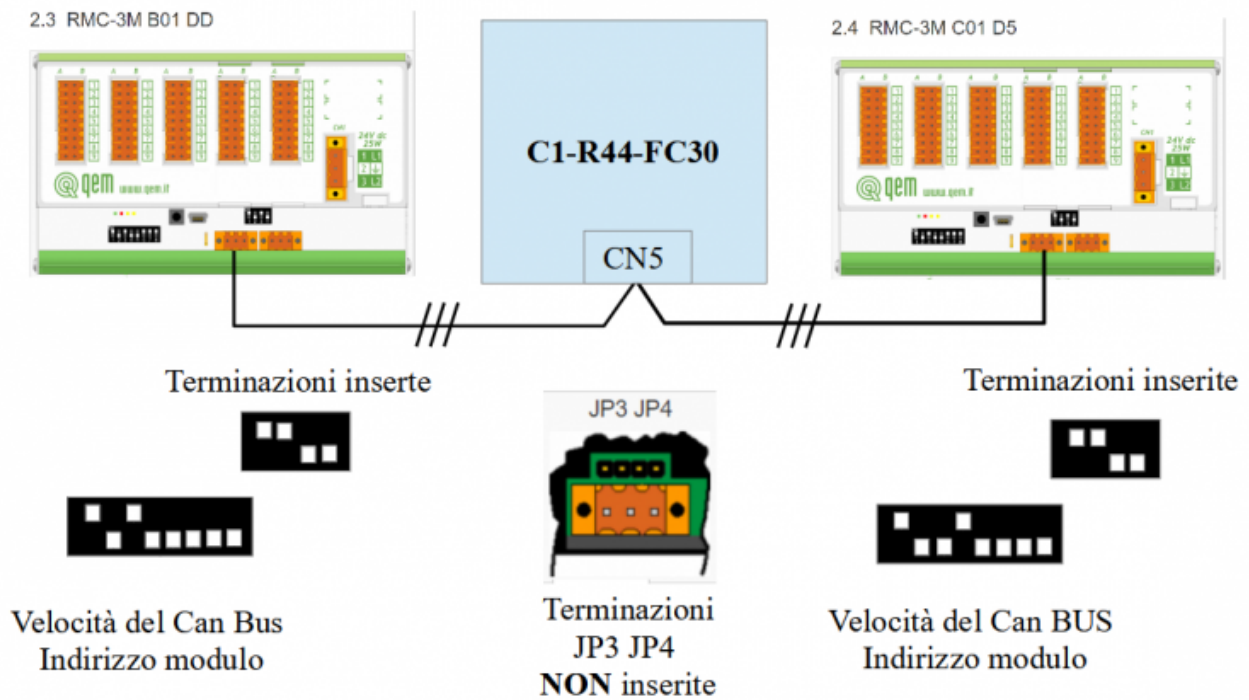
2.1.2.5 CAN cable connection example

There are two ways of connecting:

1st way:



2nd way:



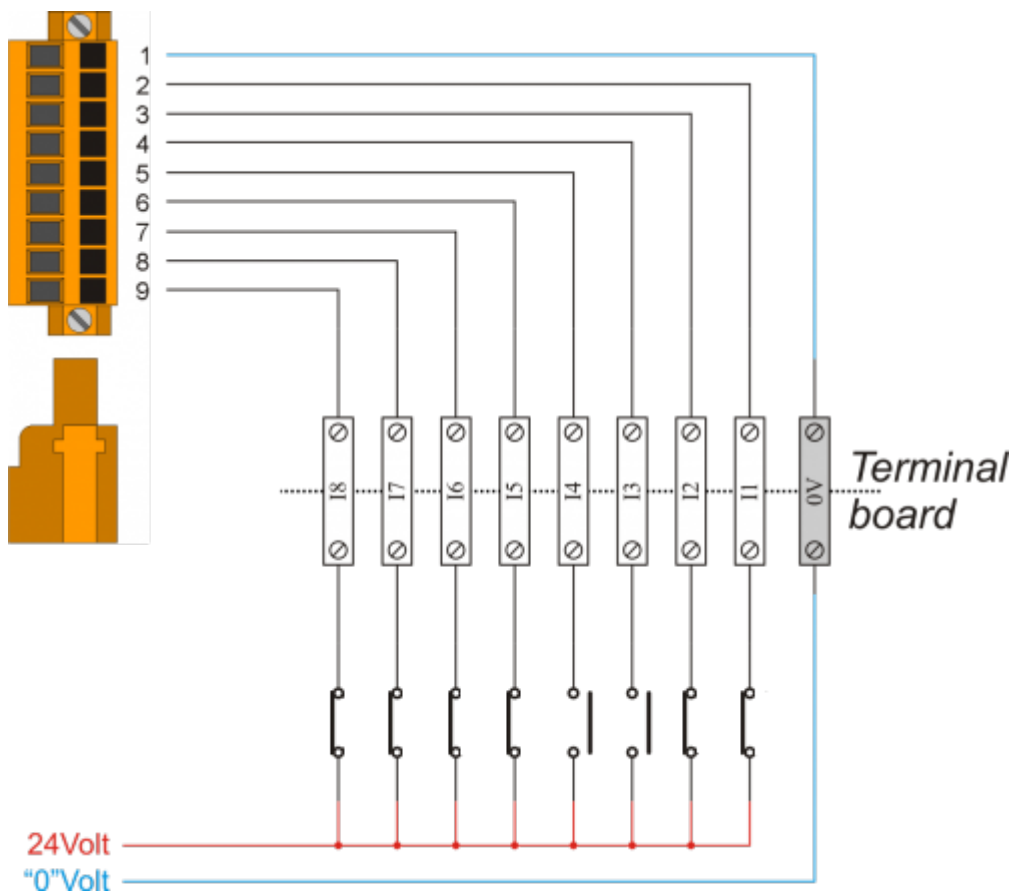
2.1.3 Digital inputs

S = Status	A = Action	ID
NO = Normally Open	I = Impulsive	ID = Software
NC = Normally Closed	C = Continuous	

2.1.3.1 C1-R44: CN7

CN 7	Pin	ID	Description	S	A
	1	0V	0 Volt (common inputs I1 ÷ I8)		
	2	I1	Thermal heads	NC	C
	3	I2	Bridge Fault		
	4	i3	Tape Fault	NO	I
	5	i4	Fault Rollers		
	6	i5	Air Pressure	NC	C
	7	i6	Water Pressure		
	8	i7	FC Avanti Ponte		
	9	i8	FC Back Bridge		

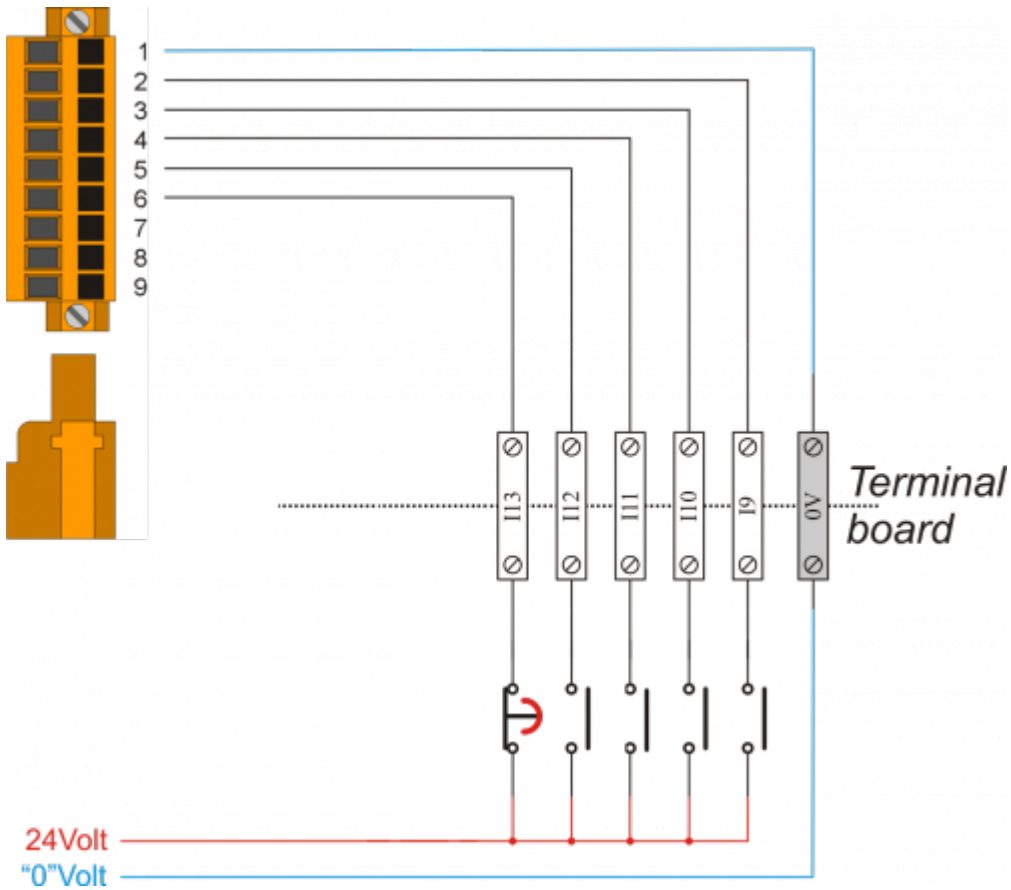
2.1.3.1.1 Connection example



2.1.3.2 C1-R44: CN6

CN 6	Pin	ID	Description		S	A	
	1	0V	0 Volt (common inputs I9 ÷ I16)				
	2	i9	Bridge zero sensor	-	NO	I	
	3	I10	Slab presence sensor	End of roller conveyors			
	4	I11		Tape Start			
	5	I12	Worn Abrasive Sensor	-			
	6	i13	Emergency	-	NC	C	
	7	I14	Pressure lubrication circuit feedback				
	8	I15	n.u.	Free			
	9	I16	n.u.	Free			

2.1.3.2.1 Connection example



2.1.3.3 C1-R44: CN18

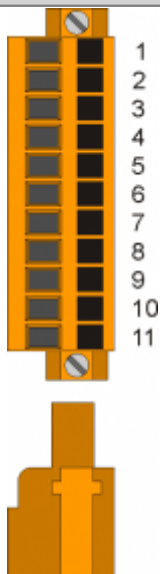
Duplication of IQ023 inputs if necessary

CN 18	Pin	ID	Description	S	A
	1	0V	0 Volt (common inputs I9 ÷ I16)		
	2	n.u	n.u		
	3	I18	Jog Bridge	NO	I
	4	I19			
	5	I20	START		
	6	I21	STOP		
	7	I22	Abrasive Change		
	8	I23	MAN/AUTO		
	9	I24	STAND-BY		

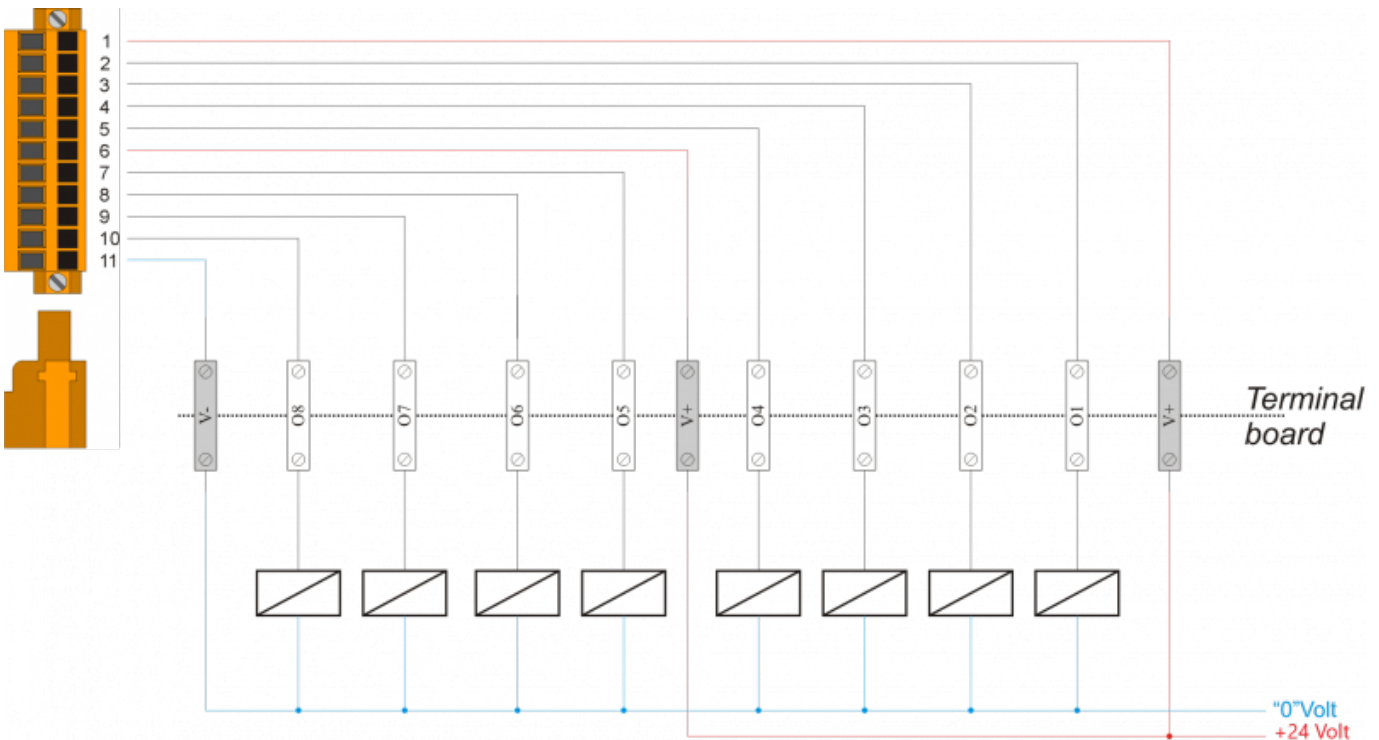
2.1.4 Digital outputs

S = State	ID
OFF = Off	ID = Software
ON = On	

2.1.4.1 C1-R44: CN9 (Out +24 Volt, 500mA)

CN 9	Pin	ID	Description	S
	1	V+	+ 24 Volt (common outputs 01 ÷ 04)	
	2	O1	ON/OFF bridge	-
	3	O2	Tape ON/OFF	-
	4	O3	ON/OFF roller conveyors	-
	5	O4	Up / Down Brush	-
	6	V+	+24 Volt (common outputs 05 ÷ 08)	
	7	O5	ON/OFF previous machine	-
	8	O6	Lubrication (optional)	-
	9	O7	Tape Stop	-
	10	O8	Alarm Status	-
	11	0V	0 Volt (common outputs 01 ÷ 08)	

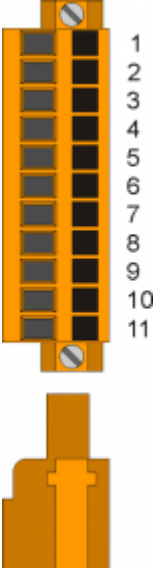
2.1.4.1.1 Connection example



Duplication of outputs (to facilitate wiring)

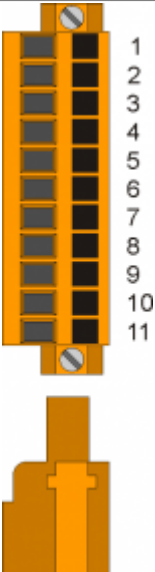
Some outputs of the RMC-3M B01 DD module are duplicated on C1-R44-FF30:

2.1.4.2 C1-R44: CN 8 (Out +24 Volt, 500mA)

CN 8	Pin	ID	Description	Head	S
	1	V+	+24 Volt (common outputs O25÷O34)		
	2	O17	AUTO LAMP ON		OFF
	3	O18	ALARM LAMP		
	4	O25	ON/OFF	1	
	5	O28		2	
	6	V+	+24 Volt (common outputs O37÷O46)		
	7	O31	ON/OFF	3	OFF
	8	O34		4	
	9	O37		5	
	10	O40		6	
	11	0V	0 Volt (common outputs O25÷O46)		

2.1.4.3 C1-R44: CN 25 (Out +24 Volt, 500 mA)

Engine starter duplication

CN 25	Pin	ID	Description	Head	S
	1	V+	+24 Volt (common outputs O49÷O58)		
	2	O43	ON/OFF	7	OFF
	3	O46		8	
	4	O49		9	
	5	O52		10	
	6	V+	+24 Volt (common outputs O61÷O70)		
	7	O55	ON/OFF	11	OFF
	8	O58		12	
	9	O61		13	
	10	O64		14	
	11	0V	0 Volt (common outputs O49÷O70)		

2.1.4.4 C1-R44: CN 20 (Out +24 Volt, 500 mA)

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