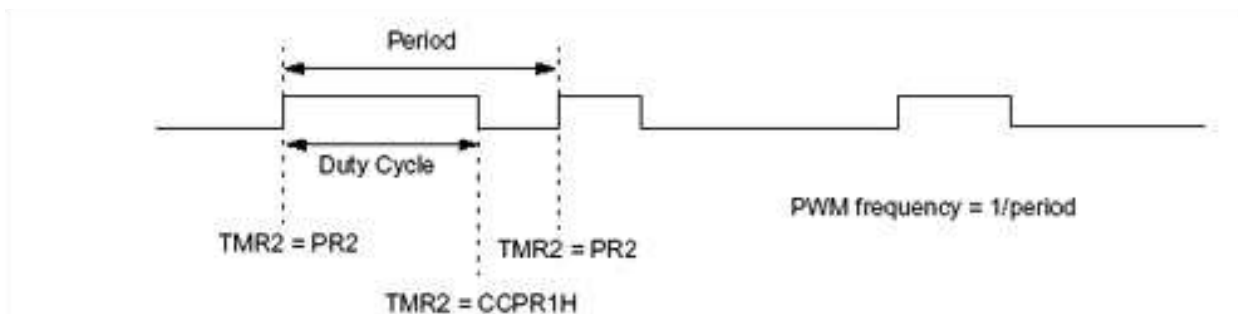## CONVERTER MODULE PWM 0-10V

The PWM signal

The PWM signal (Pulse Width Modulation) is a square wave that allows to control the absorption of an electrical load by modulating the duty cycle.

The PWM signal is characterized by the frequency (fixed) and the duty cycle (variable), see Figure below. The duty cycle is the ratio between the time when the signal is high and the period T (T = 1 / frequency).

For example a duty cycle of 50% corresponds to a square wave which takes high value for 50% of the time, a duty cycle of 80% corresponds to a square wave which takes high value for 80% of the time and low for the remaining 20%, a duty cycle of 100% corresponds to a high signal always and a duty cycle of 0% to a low signal always.

The converter module

Description	Min	Max	Unit
Power supply	10	24	Vdc
Current	-	20	mA
PWM signal	-	5	Vdc
PWM signal frequency	0.4	5	kHz
Analog output signal	0	10	Vdc
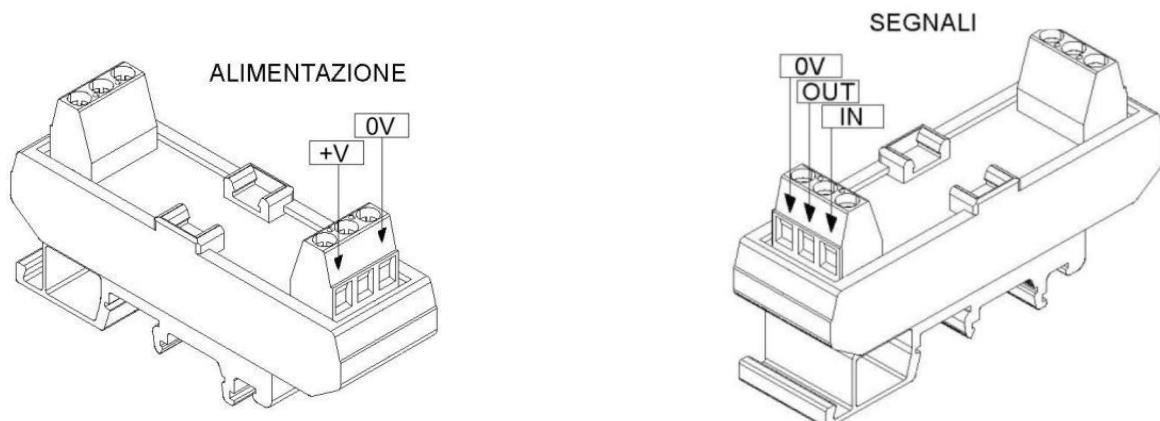
Installation

For installation and removal of the module from din rail use the special point to release by levering with a screwdriver.

Connect the converter module to follow the guidelines of the scheme, pay attention to the position of the connectors respect the point of release of the module guide.

Terminal supply side: connect the power module points to inverter +V and 0V , pay attention to observe polarity, the values refer to the table.

Terminal side signals: the module can be connected directly to +5V TTL signal, for example, the PC's parallel port, or a protection buffer if you have it. Connect to 0V point the mass of the PWM signal and the IN point to the dedicated signal. Use a twisted pair cable, to connect the Inverter analog input to converter module output.

One wire is connected between inverter analog input and the converter module output, the other wire is connected only to the inverter 0V.

Connect one wire to each terminal.

INVERTER		
+24	GND	AVI

Analog signal

CONVERTER MODULE PWM 0-10V		
+V		0V
IN	OUT	0V

PWM SIGNAL	
PWM	0V