USER'S MANUAL

**Datalogger web pulses counter.
Version 6 inputs**

P/N: GW-IMP-WEB-1(-S)

Edition 1.0

Revision Sheet

Release No.	Date	Revision Description
Rev. 0	21/10/15	User's Manual Template and Checklist
Rev. 1	11/04/19	Conversion to new format

USER'S MANUAL

TABLE OF CONTENTS

1.0 GENERAL INFORMATIONS

1.1 System Overview

The web datalogger pulses counter is able to count the pulses on the digital inputs (2 by default expandable). Through the web interface it is possible to display count values, change the pulse weight and enter an offset in the event of misalignment or assembly after the installation of the counter. All data can be viewed via the web interface or reachable via MODBUS connection.

The datalogger as optional feature can be ordered time triggered recording of the counters on csv files in the internal memory or in a SD card. Files can be downloaded via ftp Server functionality.

This datalogger version count pulse from up to 6 contact and provides the values on:

- RS232 MODBUS RTU slave;
- MODBUS TCP Server (up to 3 client connections);
- RS485 MODBUS RTU slave (GW-IMP-WEB-1-S)

1.2 Features

1.2.1 Connections

Datalogger has:

- 1 x Serial RS232 port to read datalogger's data by master Modbus RTU;
- 1 x Serial RS485 port to read datalogger's data by master Modbus RTU per la lettura dei dati da parte di un master Modbus RTU, identified by the FIELDBUS label; (GW-IMP-WEB-1-S)
- 1 x Ethernet port to read datalogger's data by client Modbus TCP; (GW-IMP-WEB-1)

- 1 x mini USB port to configure the datalogger with RNDIS driver; (GW-IMP-WEB-1-S)
- 1 screw connector to supply datalogger 10-30 VDC (min. 2 W);
- Front signal LED for comunication diagnostic; 6 x Digital Input (*)
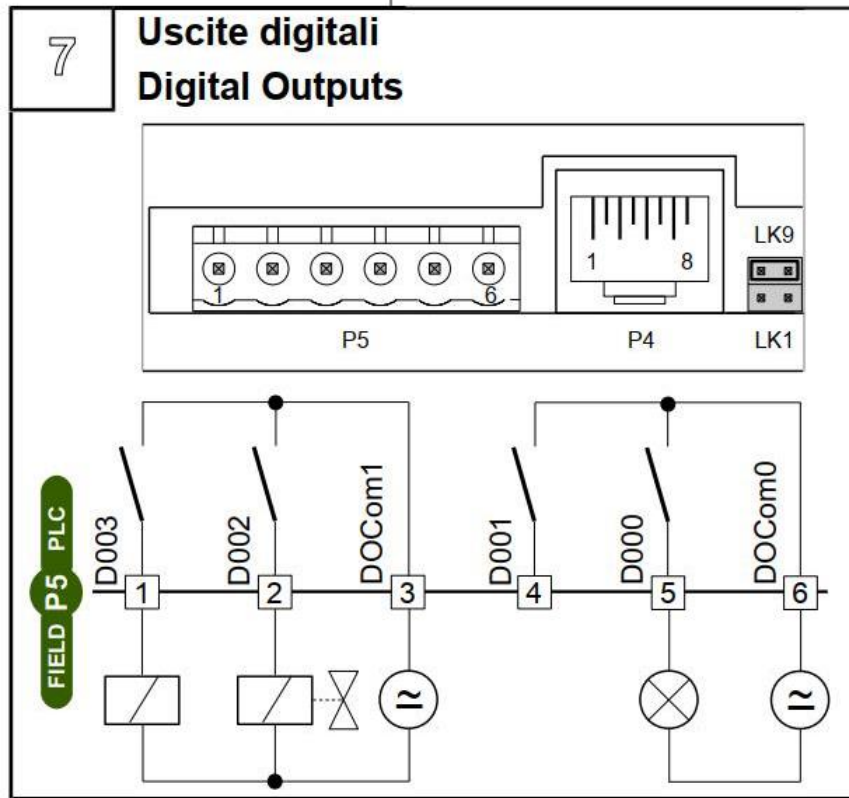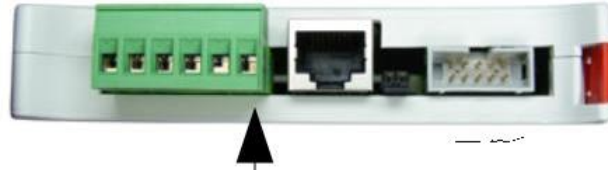- 4 x Digital Output (*)
- 2 x Analog Input (*)

(*) Their status is mapped in Modbus registers.

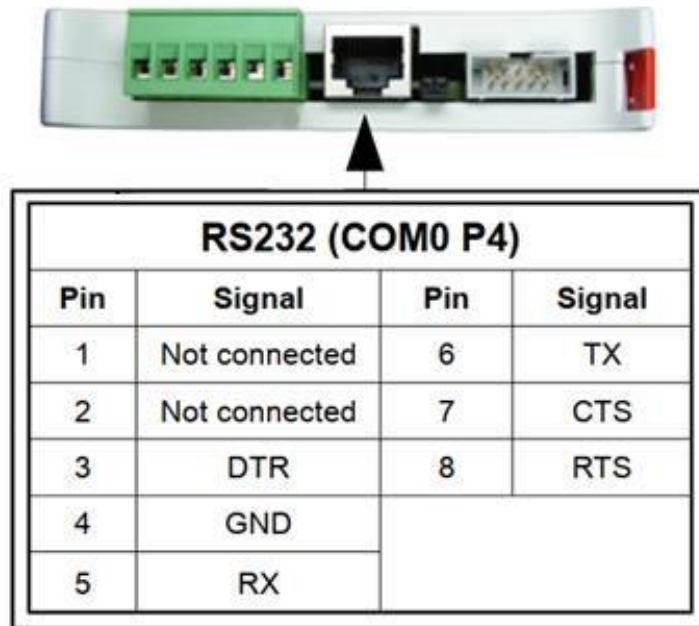## 1.2.2 I/O Connection

The schema of input connection is:
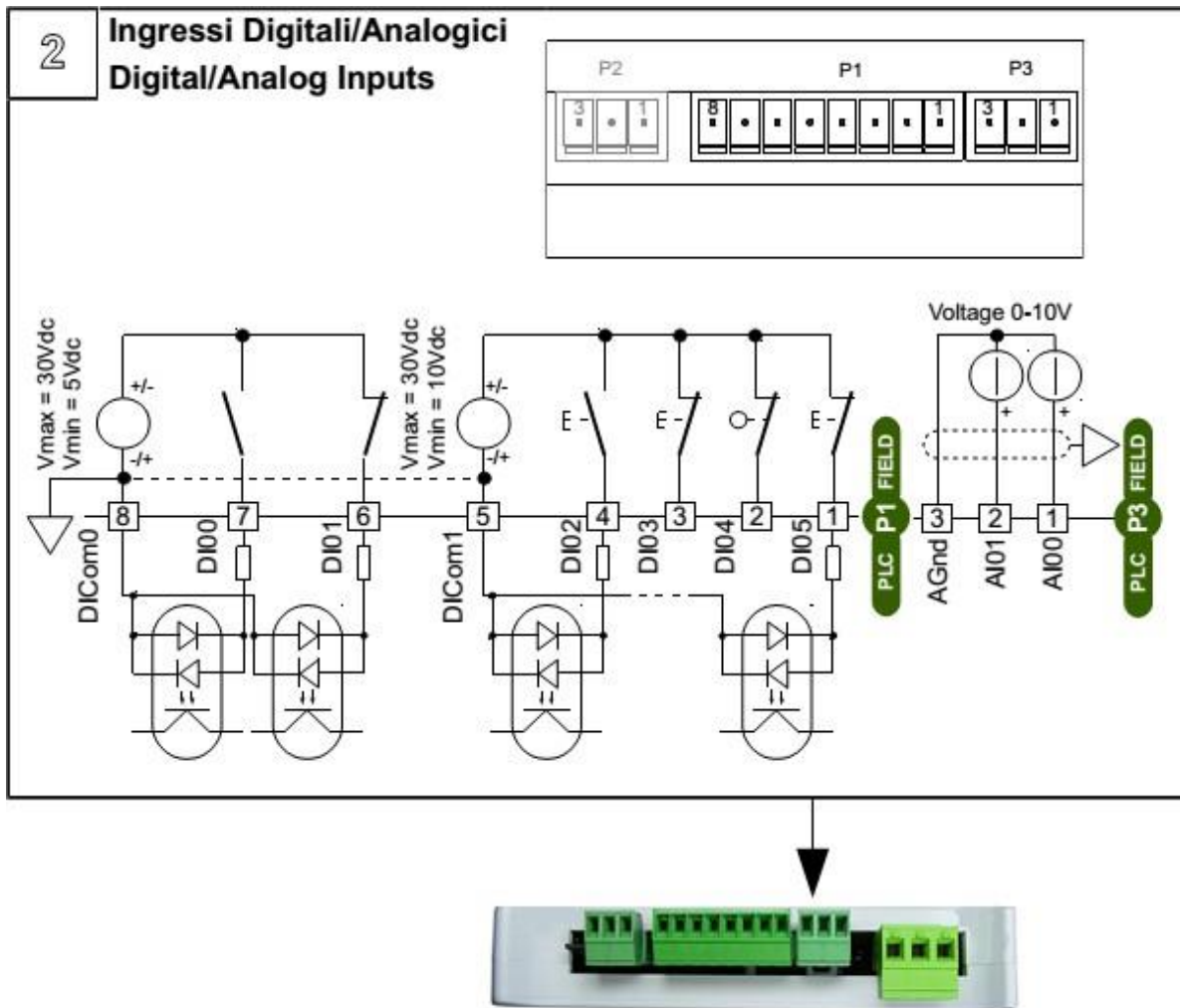
The schema of output connection is:

User's manual GW-IMP-WEB-1(-S)

1.2.3 Serial port connections

Connection of serial RS232 port

Pin	Signal	Pin	Signal
	RS232 (COM0 P4)		
1	Not connected	6	TX
2	Not connected	7	CTS
3	DTR	8	RTS
4	GND		
5	RX		

Connection of serial RS485 port (GW-IMP-WEB-1-S):

Bus di campo
Field bus

Pin	Signal
	Field Bus (P2)
	RS485
1	D+
2	D-
3	Field GND
LK4	ON= Line Terminated (120 Ohm)
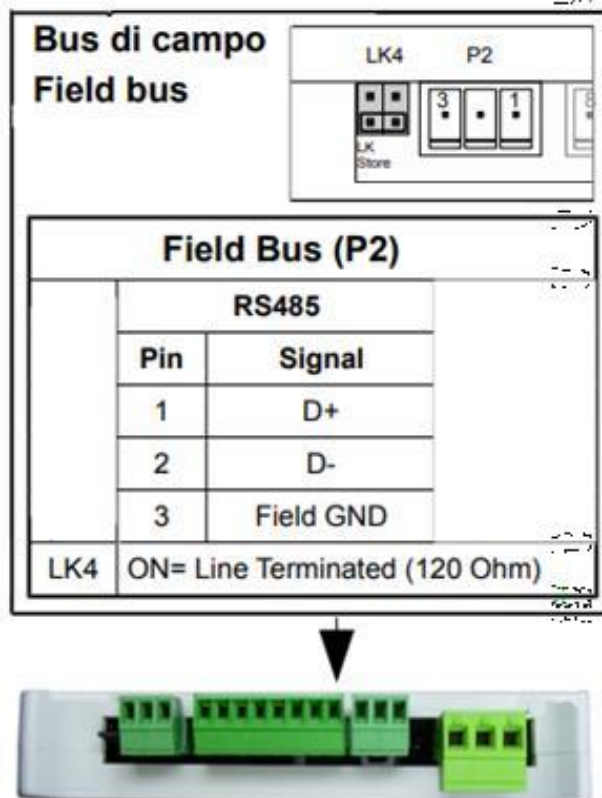
2.0 CONFIGURATION AND MODBUS MAP

2.1 TCP connection

2.1.1 GW-IMP-WEB-1

To view the web pages containing the data it is necessary to connect the data logger to the Ethernet network through the RJ45 port. On a web browser just enter the default address: **192.168.0.122**; If you do not connect, check that you have an address on the network card of the computer on the 192.168.0.X subnet.
This way you get to the main screen of the data logger with the values of the counters.

2.1.2 GW-IMP-WEB-1-S

To change device settings you need to connect it to a PC using the USB port.
The physical connection between the PC and the PLC must be done with an USB cable A to mini-B type. This connection uses the Microsoft RNDIS protocol, which creates a virtual Ethernet port on the PC. When the device is connected to the PC for the first time the system will detect the new device and install the RNDIS driver. The operations for setting the IP address on the PC are as follows:
1. On Start, click Control Panel;
2. On Control Panel, double-click Network and Sharing Center;

3. The active network connection list window will open; click on the highlighted link:
4. The connection status window will open; click on Properties;
5. The properties window of the RNDIS connection will open: select Internet Protocol version 4 (TCP/IPv4) and then properties. Set an IP address compatible with the address of the device to connect to (default address is **192.168.1.122**).

On a web browser just enter the default address. This way you get to the main screen of the datalogger with the values of the counters.

2.2 Web pages

2.2.1 Home datalogger

Home datalogger | IO Status | Setting pulse | Hardware setup | Time setup | System

Page refresh in 4 seconds Refresh

COUNTER 1	
Value	692.60
Weight	1.00
Offset	692.60

COUNTER 2	
Value	32.00
Weight	1.00
Offset	32.00

COUNTER 3	
Value	5671.00
Weight	1.00
Offset	5669.00

COUNTER 4	
Value	0.00
Weight	1.00
Offset	0.00

COUNTER 5	
Value	19.00
Weight	1.00
Offset	0.00

COUNTER 6	
Value	6.00
Weight	1.00
Offset	0.00

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From this page, through the links at the top of the page, you can access the following pages:
- *IO Status;* Page to verify the inputs status and for set the outputs.
- *Setting datalogger;* Page to set the pulse counter parameters, such as pulse weight and count offset.
- *Hardware setup;* Page to modify the hardware parameters of the pulse counter as IP address and Modbus communication parameters.
- *Time setup;* Page to change the time or activate the NTP protocol.

- *System;* Page to login to enable changes and to reboot the system.

2.2.2 IO Status

MARCOM DATALOGGER
GW-IMP-WEB-1 rev. 1.6

Home datalogger | **IO Status** | Setting pulse | Hardware setup | Time setup | System

Page refresh in 10 seconds   Refresh

DIGITAL INPUT	
DI0	🔴
DI1	🔴
DI2	🔴
DI3	🔴
DI4	🔴
DI5	🔴

DIGITAL OUTPUT	
DO0	🟢
DO1	⚪
DO2	⚪
DO3	⚪

ANALOG INPUT	
AI0	2.1 %
AI1	0 %

Marcom S.r.l. - http://www.marcomweb.it

In the *IOStatus* page you can verify the inputs status, view and set (after logged in) the digital outputs status and the percent value of analog inputs.

2.2.3 Setting datalogger

MARCOM DATALOGGER
GW-IMP-WEB-1 rev. 1.6

Home datalogger | IO Status | **Setting pulse** | Hardware setup | Time setup | System

COUNTER 1		
Weight	1.00	Valori di default
Offset	692.60	

COUNTER 2		
Weight	1.00	Valori di default
Offset	32.00	

COUNTER 3		
Weight	1.00	Valori di default
Offset	5669.00	

COUNTER 4		
Weight	1.00	Valori di default
Offset	0.00	

COUNTER 5		
Weight	1.00	Valori di default
Offset	0.00	

COUNTER 6		
Weight	1.00	Valori di default
Offset	0.00	

Save

Reset counters

Marcom S.r.l. - http://www.marcomweb.it

In the Setting datalogger page you can reset the values of the counters, change the weight of the pulses and the offsets.

2.2.4 Hardware setup

MARCOM DATALOGGER
GW-IMP-WEB-1 rev. 1.6

Home datalogger | IO Status | Setting pulse | **Hardware setup** | Time setup | System

ETHERNET SETUP	
MAC Address	70-B3-D5-13-DD-33
IP Address	192.168.0.122
Network mask	255.255.255.0
Gateway	192.168.0.1
DNS Primary	8.8.8.8
DNS Secondary	8.8.4.4

SERIAL PORT SETUP	
Serial port "COM0"	9600 ▼ N ▼ 8 ▼
Serial port "COM1"	1200 ▼ N ▼ 8 ▼
Serial port "COM2"	9600 ▼ N ▼ 8 ▼

MODBUS SETUP	
Modbus on "COM0"	RTU ▼ Node: 1
Modbus on "COM1"	RTU ▼ Node: 1
Modbus on "COM2"	RTU ▼ Node: 1
Modbus Over IP	Node: 1 Port: 502

Save
Reboot the system to validate the changes.

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The parameters that can be modified in the Hardware Setup page depend on the version of the pulse counter.
The RS232 serial port corresponds to COM0, while the RS485 serial port corresponds to COM2.
After modifying and saving the parameters, the device must be restarted.
This can also be done from the System page.

2.2.5 Time setup

On the Time setup page you can change the device time and activate the NTP server. (GW-IMP-WEB-1).

2.2.6 System

On this page you can log in (Username = **Admin**, Password = **Admin**), necessary to modify the parameters, and force the device to restart.

2.3 Mappa area modbus

The datas are placed in the Holding Register area.
A copy of the values is also present in the 4x20000 holding register area.
Modbus addresses in the table are base 1

Nome variabile	Tipo	Indirizzo MODBUS	Note
DIGITAL INPUT 0	UINT	4x40001	1st digital input (0=contact open, 1= contact closed)
DIGITAL INPUT 1	UINT	4x40002	2nd digital input (0=contact open, 1= contact closed)
DIGITAL INPUT 2	UINT	4x40003	3rd digital input (0=contact open, 1= contact closed)
DIGITAL INPUT 3	UINT	4x40004	4th digital input (0=contact open, 1= contact closed)
DIGITAL INPUT 4	UINT	4x40005	5th digital input (0=contact open, 1= contact closed)
DIGITAL INPUT 5	UINT	4x40006	6th digital input (0=contact open, 1= contact closed)
DIGITAL OUTPUT 0	UINT	4x41500	1st digital output (0=contact open, 1= contact closed)
DIGITAL OUTPUT 1	UINT	4x41501	2nd digital output (0=contact open, 1= contact closed)
DIGITAL OUTPUT 2	UINT	4x41502	3rd digital output (0=contact open, 1= contact closed)
DIGITAL OUTPUT 3	UINT	4x41503	4th digital output (0=contact open, 1= contact closed)
ANALOG INPUT 0	UINT	4x40008	1st analog input (percentage value * 10)
ANALOG INPUT 1	UINT	4x40009	2nd analog input (percentage value * 10)
RESET	UINT	4x40000	Reset of real counter
CONTATORE 1	REAL	4x41024	1st counter
CONTATORE 2	REAL	4x41026	2nd counter
CONTATORE 3	REAL	4x41028	3rd counter
CONTATORE 4	REAL	4x41030	4th counter
CONTATORE 5	REAL	4x41032	5th counter
CONTATORE 6	REAL	4x41034	6th counter

PESO_IMP_1	REAL	4x41074	Weight for pulses on the 1st counter
PESO_IMP_2	REAL	4x41076	Weight for pulses on the 2nd counter
PESO_IMP_3	REAL	4x41078	Weight for pulses on the 3rd counter
PESO_IMP_4	REAL	4x41080	Weight for pulses on the 4th counter
PESO_IMP_5	REAL	4x41082	Weight for pulses on the 5th counter
PESO_IMP_6	REAL	4x41084	Weight for pulses on the 6th counter
OFFSET_1	REAL	4x41124	Offset for the 1st counter
OFFSET_2	REAL	4x41126	Offset for the 2nd counter
OFFSET_3	REAL	4x41128	Offset for the 3rd counter
OFFSET_4	REAL	4x41130	Offset for the 4th counter
OFFSET_5	REAL	4x41132	Offset for the 5th counter
OFFSET_6	REAL	4x41134	Offset for the 6th counter
NUMERO IMPULSI 1	UDINT	4x41174	Total number of pulses on the 1st input
NUMERO IMPULSI 2	UDINT	4x41176	Total number of pulses on the 2nd input
NUMERO IMPULSI 3	UDINT	4x41178	Total number of pulses on the 3rd input
NUMERO IMPULSI 4	UDINT	4x41180	Total number of pulses on the 4th input
NUMERO IMPULSI 5	UDINT	4x41182	Total number of pulses on the 5th input
NUMERO IMPULSI 6	UDINT	4x41184	Total number of pulses on the 6th input

3.0 MECHANICAL FEATURES

The dimensions of the gateway are the following: