

G.MILANI S.A.S.

DI TETTONI FABRIZIO & C.

VIA CAVAGLIETTO, 25

28010 - CAVAGLIO D'AGOGNA NO (ITALIA)

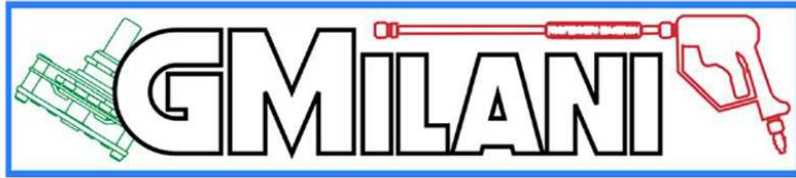
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HOT WATER PRESSURE WASHER EQUIPMENT TLR FULL

Features:

Power supply:

between 90 Vac and 520 Vac – 50/60 Hz (automatic voltage detection)

Supported motor loads:

Three-phase up to 7.5 kW – 10 HP

Single-phase up to 5.5 kW – 7.5 HP

Management:

Fully microprocessor-controlled

Main controls:

Main On-Off in low voltage

Hot circuit activation On-Off

Hot circuit controls:

Timed fan control

Timed diesel solenoid valve

Independent timed ignition (spark)

Timed anti-scale output

Photocell control

Thermostat input

Fuel float switch input

Detergent float switch input

Inputs and indications:

Low voltage pressure switch input

Motor thermal protection with intervention indication

4 LED indicator outputs

Connections:

Power via Faston 6.3 mm

Controls via Phoenix-type plug-in terminals

Dedicated PC interface connector

Mechanical characteristics:

Dimensions (L x D x H): 130 x 100 x 50 mm weight: 700 g

Protection:

Electronic board encapsulated in epoxy resin against dust and humidity



Description:

The TLRFULL is a full-featured electronic board designed for the complete management of hot water pressure washers. The entire operation is controlled by a microprocessor, allowing advanced and fully customizable configuration via the TesterTLR software on Windows PC.

Each unit is programmed with a unique serial number, visible through software, ensuring full traceability of the device.

Custom configuration:

The manufacturer can set timings, enable or disable functions, and access hour counters (total and partial) via the TesterTLR software on Windows PC. The board is equipped with a dedicated interface connector and can be connected to a PC using the dedicated USB interface board/cable used for all TLR microprocessor-based devices.

Universal power supply:

The board automatically detects voltages between 90 and 520 Vac 50/60 Hz, adapting its operation without the need for manual selection or settings.



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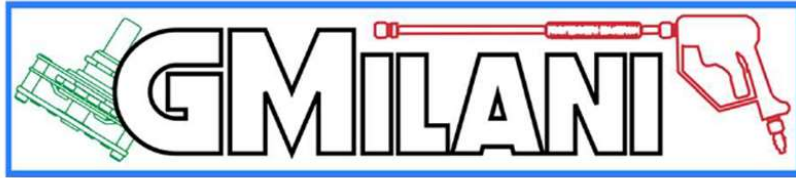
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**Smart spark management:**

Ignition is activated only when required and stops upon flame detection, increasing igniter lifespan.

Advanced hour meter:

Records hot and cold operating hours, number of motor thermal protection interventions, and a partial hour counter for scheduled maintenance.

It is possible to define via software whether to allow normal operation upon reaching the threshold or to completely stop the machine after an additional configured threshold.

Maintenance reset:

Via a dedicated push-button (software-enabled/disabled), the partial hour counter can be reset after maintenance has been performed.

Integrated safety features:**Motor thermal protection:**

In case of motor thermal trip, the board stops the machine and signals the fault. Reset is allowed once temperature returns within the correct operating range.

Photocell control:

Ensures hot circuit safety. Faults, tampering, or signal loss result in shutdown of the hot section. This function can only be disabled via software.

Customization via **TesterTLR:**

Configurable functions:

- TotalStop activation time at startup and when releasing the lance.
- Maximum continuous pump operation shutdown. Inactivity (stand-by) shutdown. Micro-leakage (false starts) detection, including number of events, minimum recognition time, and time window for activation.
- Water shortage detection.
- Flame failure detection.
- Fuel shortage detection.
- Timed smoke fan shutdown.
- Maintenance warning.
- Maintenance lock.
- Periodic anti-scale activation (counted only when the pump is active).

Hardware features:

- Power via 6.3 mm Faston connectors.
- Control via Phoenix plug-in terminals.
- Output protection:
- All output relays are equipped with varistors for suppression of voltage spikes and protection against contact arcing.
 - Pump motor: 3 relays rated 40 A each.
 - Fan motor: 1 relay 8+8 A (two-phase interruption).
 - Spark: 1 relay 10 A.
 - Diesel solenoid valve: 1 relay 10 A.
 - Anti-scale: 1 relay 10 A.
- 4 independent outputs for 12 Vdc LED indicators.

**MADE IN ITALY**

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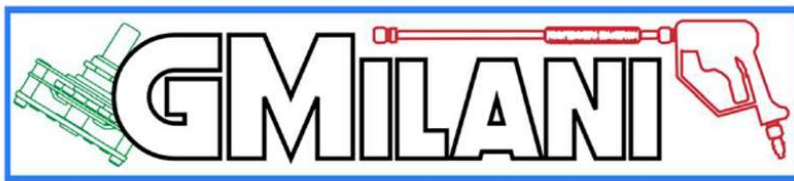
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ALARM SIGNAL DESCRIPTION TLR FULL

LED 1 - Power:

OFF: no power to the equipment

ON: power present

Flashing (0.5s ON / 0.5s OFF): thermal protection triggered

Flashing (2s ON / 0.5s OFF): temperature back to normal

LED 2 - Water:

OFF: normal operation

ON: no water

Flashing (0.5s ON / 0.5s OFF): false starts

2 flashes (1s pause): maximum pump time exceeded

3 flashes (1s pause): maximum stand-by time exceeded

5 flashes (1s pause): no detergent

LED 3 - Diesel:

OFF: normal operation

ON: no diesel

Flashing (0.5s ON / 0.5s OFF): no flame

6 flashes (1s pause): flame sensor error

LED 4 - Maintenance:

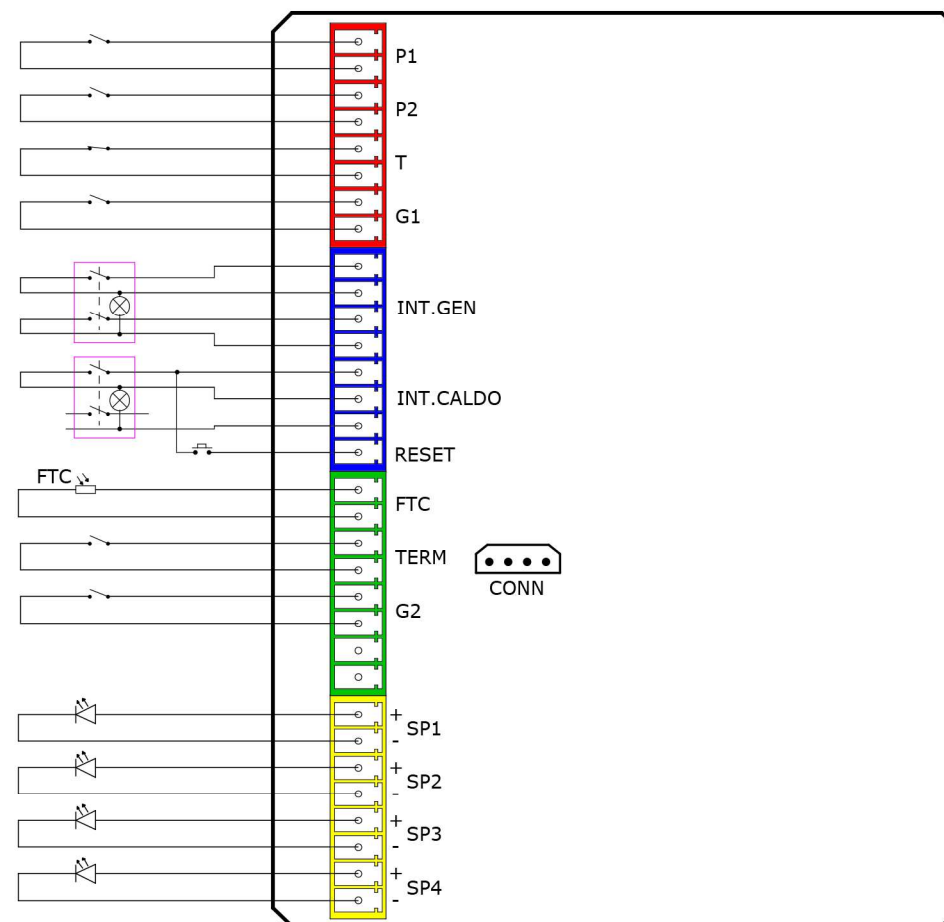
OFF: normal operation

ON: machine maintenance required

Simultaneous flashing (0.5s ON / 0.5s OFF) of all 4 LEDs:

Machine blocked due to missed maintenance

P1 - Pressure switch generally mounted on the pump
 Pressostato generalmente montato su pompa
 P2 - Pressure switch generally mounted on the valve
 Pressostato generalmente montato su valvola
 T - Thermal control input for the pump motor
 Ingresso controllo termica motore pompa
 G1 - Diesel float switch input
 Ingresso galleggiante gasolio
 INT.GEN. - ON/OFF General low voltage switch with indicator
 ON/OFF Interruttore in bassa tensione generale con spia
 INT.CALDO - ON/OFF Hot section switch with indicator
 ON/OFF Interruttore selezione caldo con spia
 RESET - Input for maintenance hour counter reset button
 Ingresso per pulsante reset contaore manutenzione
 FTC - Photocell sensor input
 Ingresso sensore fotocellula
 TERM. - Thermostat input
 Ingresso termostato
 G2 - Detergent float switch input
 Ingresso galleggiante detergente
 SP1 - 12Vdc output for LED indicator light (Network presence)
 Uscita 12Vdc Spia led segnalazione (Presenza rete)
 SP2 - 12Vdc output for LED indicator light (Water)
 Uscita 12Vdc Spia led segnalazione (Acqua)
 SP3 - 12Vdc output for LED indicator light (Diesel)
 Uscita 12Vdc Spia led segnalazione (Gasolio)
 SP4 - 12Vdc output for LED indicator light (Maintenance)
 Uscita 12Vdc Spia led segnalazione (Manutenzione)
 CONN - Programming interface connector with PC via TesterTlr software /
 Connettore interfaccia programmazione tramite software TesterTlr



TLRFULL COMANDO

CONTRACT:

REV. DATE

DESIGNED
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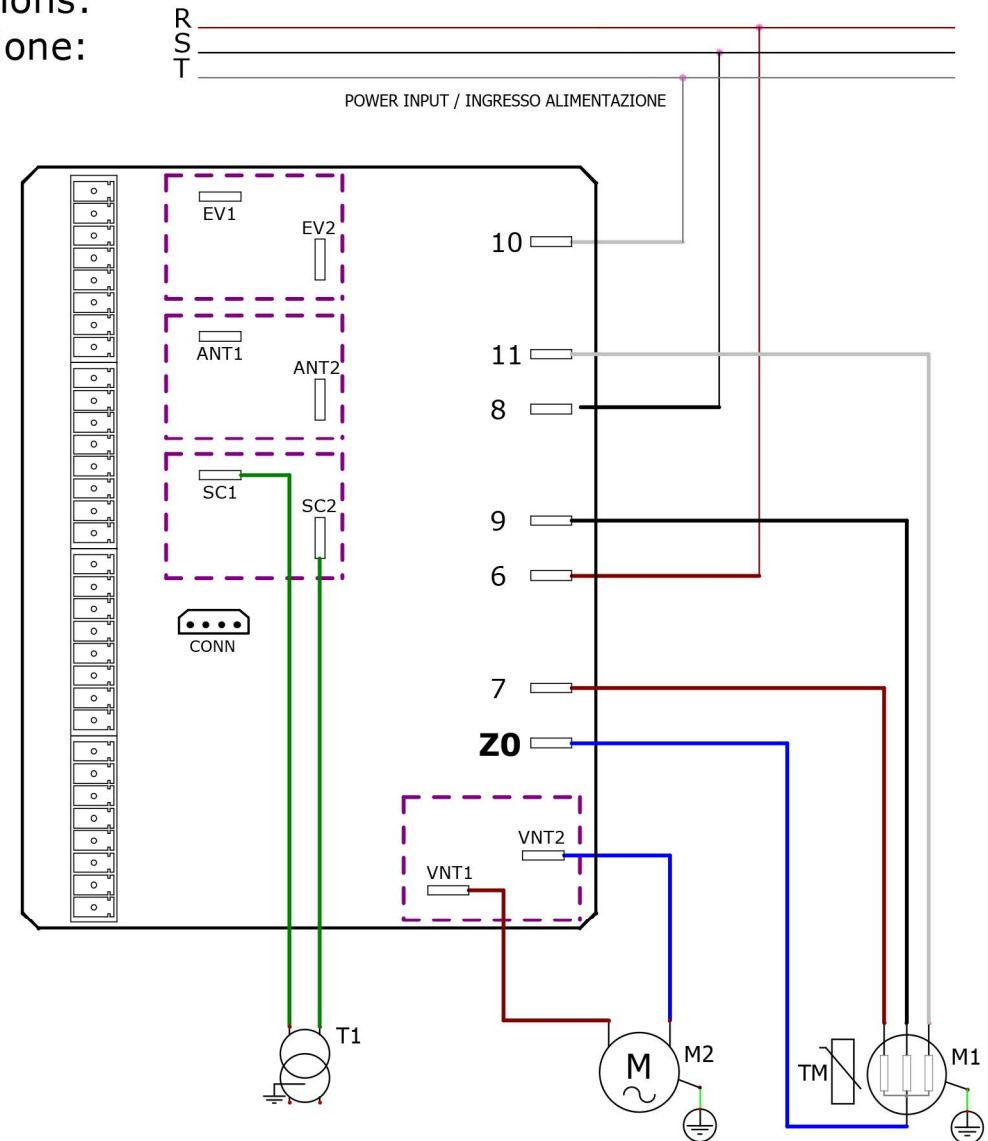
SCHEME

Example of Connections: Esempio di connessione:

- 6,8,10 - Power Input
Ingresso alimentazione
- 7,9,11 - Water pump motor Output
Uscita motore pompa
Do not use 10,11 in single-phase
In monofase non usare 10,11
- Z0 - Neutral input for 230Vac, or pump motor star center, connect to 8 in single-phase
Ingresso Neutro per 230Vac, oppure centro stella motore Pompa, unire con 8 in monofase
- VNT1,VNT2 - 230Vac output for smoke fan motor
Uscita 230Vac motore ventola fumi
- EV1,EV2 - Clean N/O contacts for diesel solenoid valve
Contatti N/O puliti Elettrovalvola gasolio
- ANT1,ANT2 - Clean N/O contacts for descaling system
Contatti N/O puliti per anticalcare
- SC1,SC2 - 230Vac Output Spark Igniter
Uscita 230Vac accenditore scintilla
- CONN - Programming interface connector with PC via TesterTlr software /
Connettore interfaccia programmazione tramite software TesterTlr

- M1 - Water pump outlet / Uscita pompa acqua
To reduce overvoltages and improve contact lifespan, it is recommended to install an RC snubber as close as possible to the motor/pump contacts, following the manufacturer's guidelines /
Per ridurre le sovratensioni e migliorare la durata dei contatti, si consiglia l'installazione di un gruppo RC il più vicino possibile ai contatti del motore/pompa, seguendo le indicazioni del produttore del motore.
- TM - motor safety thermal switch / Interruttore termica sicurezza motore
- M2 - Smoke fan motor / Motore ventola fumi
- T1 - Spark high voltage transformer / Trasformatore alta tensione scintilla

130 x 100 x 50 - Dimensions and clearance measurements for TLRFULL
Dimensioni ingombro TLRFULL



TLRFULL POTENZA

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