


	TECHNICAL DATASHEET		Project name PMWM
Release date 09 December 2020 Revision N°3 Date: 13 01 2021	APPROVED BY: 	COMPILED BY: 	SIGNATURE OF THE HEAD 

PMWM





predictive maintenance working monitoring





DESCRIPTION

PMWM can monitor the air-gap variation to guide a more efficient and effective maintenance of the drive systems.

PMWM is able to recognize the air-gap value through a voltage signal coming from the sensor. Brake coil voltage doesn't affect the goodness of the signal.

SYMBOLS AND MEANING

SYMBOLS	MEANING	DESCRIPTION
	DANGER!	Danger of personal damage caused by a general source of danger. It refers to an imminent danger that could give place to serious personal damage or death if the correspondent measures of protection are not respected.
	RISK OF ELECTROCUTION!	Danger of personal damage caused by high electrical voltage It refers to an imminent danger that could give place to serious personal damage or death if the correspondent measures of protection are not respected.
	STOP!	Danger of property damage It refers to an imminent danger that could give place to property damage if the correspondent measures of protection are not respected.
	NOTE!	Important note to ensure trouble-free operation.

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PMWM INSTALLATION AND ELECTRICAL CONNECTION

Please refer to following schema to install the PMWM.

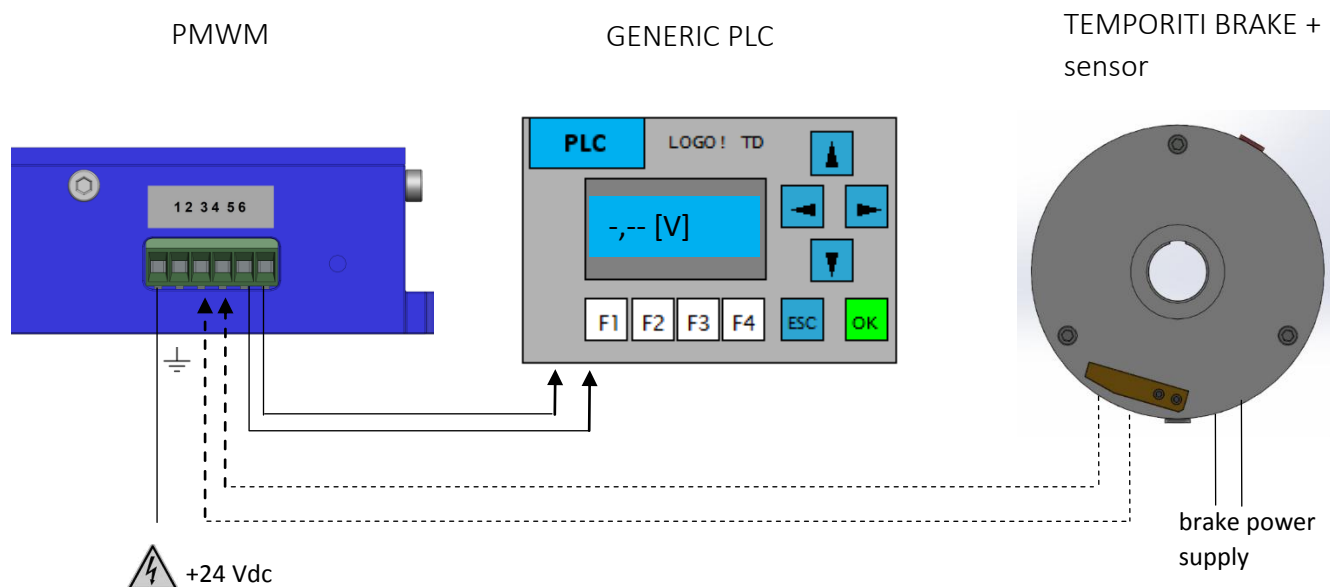










Fig. 1: Electrical connection

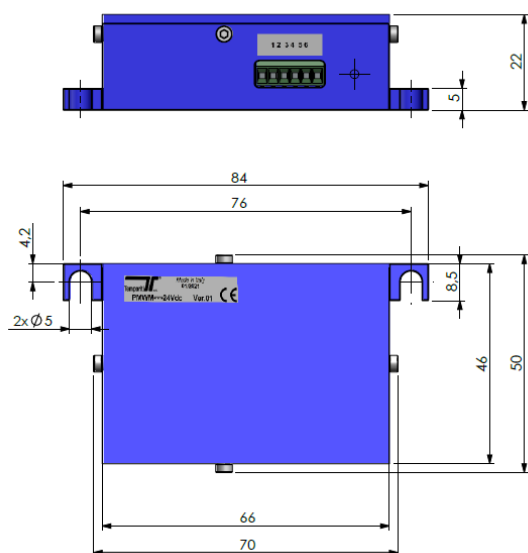
NUMBER	CONNECTION
1	+24 Vdc (transmitter power supply)
2	GND (transmitter power supply)
3	Sensor signal (-)
4	Sensor signal (+)
5	Negative Analogic output voltage
6	Analogic output in voltage 0-10 Vdc

Tab 1: PMWM Electrical connection

-  The sensor is installed on the brake and connected to the PMWM directly from Temporiti srl. If you need to remove it, please re-assemble it following the above schema.
-  Once PMWM has been installed on the motor or drive device, please engage the brake and take note of the voltage value reported from PLC. This value represents the zero point.
-  If you need to know the airgap value, please refer to Fig. 3
-  The maximum output signal cable length (cable 8 – 9, Fig. 1) is 10mt.

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PMWM DIMENSION



Operating temperature: -20°C / +40°C
(humidity max 85% without condensation)
Storage temperature: -20°C / +50





Fig. 2: PMWM dimensions

PMWM TECHNICAL DATA

Please find reported below the main characteristic for PMWM.

PMWM TECHNICAL DATA	
PMWM Input voltage	+24 Vdc
PMWM Output voltage	+/-10 Vdc
Allowable brake coil voltage	Every kind of voltage
Protection	IP20 (for higher IP protection please contact our technical department)
Ambient temperature	-20°C / +40°C
Storage temperature	-20°C / +50°C
Humidity max	85% without condensation
Conformity markings	CE
Installation condition	<p>The PMWM position can be defined directly from the final user.</p> <p>Please make sure to install PMWM as close as possible to the sensor (maximum allowable distance 3m).</p> <p>Sensor on the brake is already positioned in Temporiti</p>

Tab 2: PMWM technical data

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AIRGAP – SIGNAL CURVE

Please find below the graph which represent the increment of Voltage value referred to the increment of the airgap.

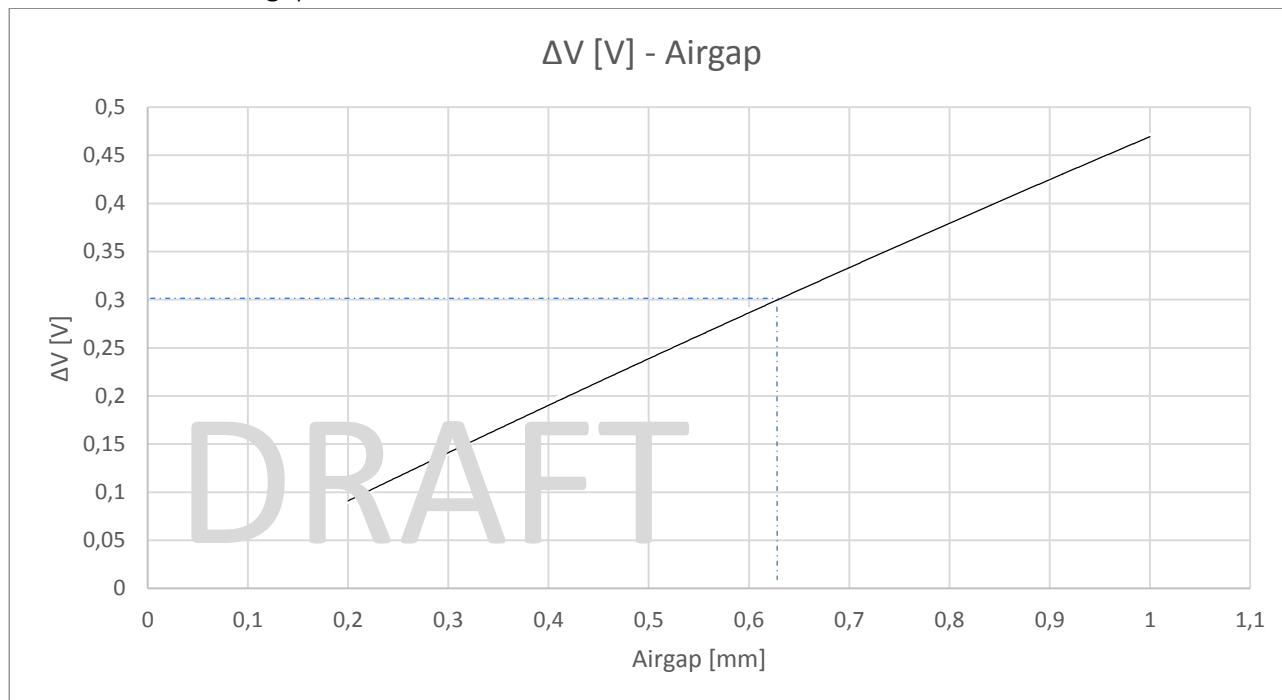


Fig. 3: ΔV – Airgap Curve

Signal curve will be delivered with PMWM.

EXAMPLE OF AIRGAP EVALUATION WITH PMWM

1. Once PMWM has been installed on the motor or drive device and the brake is engaged, please read the first voltage value reported by PLC.
Example: 8,82 [V]
2. Once the brake is disengaged, please read the voltage value reported from PLC
Example: 8,52 [V]
3. Evaluate the different in terms of voltage value.
Example: $\Delta V = 8,82 - 8,52 \text{ [V]} = 0,3 \text{ [V]}$
4. Refer to fig.3 in order to understand which is the airgap in this moment
Example: $\Delta V = 0.3 \text{ [V]} \rightarrow \text{Airgap} = 0,63 \text{ [mm]}$