italtec
Technical Training Systems

Company with Quality Management System
Certified by DNV = ISO 9001/2015 =

PERMANENT MAGNET SYNCHRONOUS MACHINE

PMSM machine

Mod.6142-pm

Permanent magnet synchronous machine 12,7Nm, 3000rpm, 90% efficiency, 8poles rotor with surface mount magnet, 380Vac 3Phase.

- **Wide speed range**
- **Constant torque 30÷3000rpm**
- **Rare-earth magnet**
- **8 poles construction, sinusoidal c.e.m.f.**
- **Integrated PTC thermal protection**
- **Sensorless, self-ventilated**
- **Reduced sizes and weight**
- **High efficiency, reduced losses**
- **Quiet, high protection level**

- **Shaft height: 90mm**
- **Shaft diameter: 24 mm,**
- **Shaft length: 50 mm**
- **Total length: 308 mm**
- **Weight: 10,2 kg**

Accessories:

-Mod.6203-07
Torque & Speed meters

-Mod.6203-07-TT
Torque Transducer

-Mod.6203-07-TT
Load cell

-Mod.6185-O
Optical speed encoder 1PPR 12Vdc

-Mod.6185-S
Speed encoder 1024PPR HTL/TTL A+B+Z

CE

THREE-PHASE PERMANENT MAGNET SYNCHRONOUS MACHINE (PMSM)

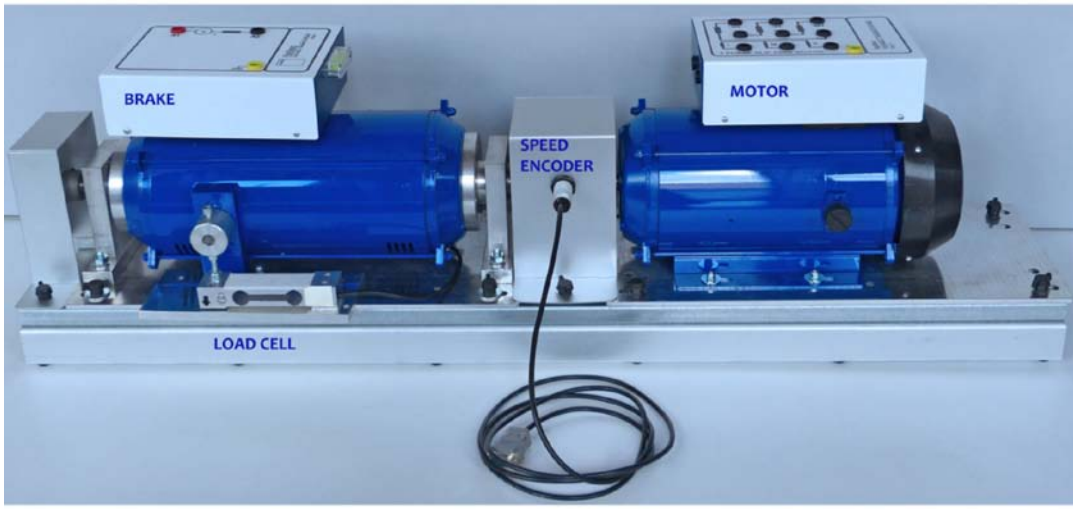
PMSM Machine can work as motor or as generator.

- **Line voltage: 380volts AC**
- **Rotor: surface mount permanent magnets, (with 8 poles)**
- **Nominal power: 4kW**
- **Max current: 7,8A**
- **Max torque: 12,7 Nm**
- **Speed: 30÷3000rpm**
- **Nominal Speed: 3000rpm**
- **Nominal Frequency: 200Hz**
- **Peak current: 26A**
- **Rotor inertia: 20(kg cm^2)**
- **Inductance: 7,9 mH**
- **Efficiency as motor: >90%(IE4)**

- *Constant torque 30÷3000rpm*
- *Protection against thermal overload.*
- *All connections on 4 mm safety sockets included thermal contact.*
- *Imprinted terminal boards with the synoptic.*
- *With coupling cog for easy coupling with other machines.*
- *Optional rail base t-top with anti-vibration rubber feet.*
- **As motors can only be operated in connection with a frequency inverter** (VFD with PMSM sensorless control mode)
- **Frequency inverter (VFD) included with motor**

Didactical purpose
- Motor /Generator connection
- Typical machine data evaluation
- No-load test of the motor
- Test with two machines one as motor and one as generator /load

- Direct test with load/brake for electro-mechanical characteristic (torque, speed, input current, efficiency as function of the output power and speed)



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