M1

The Integrated Global AC Drives Solution

5 things never to forget

1. IM and PM motor control in OLV & CLV (200% torque at 0Hz).
2. Speed, Position and Gear function.
3. M1 STD built-in Modbus RS-485 and M1 ECT built-in EtherCAT.
4. Safe Stop 0 (STO SIL3 PLe) wired and FSoE.
5. PC configuration tool: Sysmac Studio IDE.

Features and benefits

- Optimization of machine design: Built-in EtherCAT allows you to integrate the M1 Series into any EtherCAT network. It saves total engineering costs;
- Flexible connection: The EtherCAT topology allows variable machine design, and the ring topology contributes to robust manufacturing;
- Choice of motors: The M1 Series expands the choices of motors that can be used for the drive system;
- System digitalization: The networked system makes the machine closer to IoT technology. The information can be shown at the factory floor or monitored from a different location remotely, not only informing current conditions but also being useful for predictive maintenance;
- Energy saving: Almost half of the world's electrical power consumption is by motors. Selecting the correct motor and optimizing the motion are the most effective way to save energy. The M1 Series has adaptability for various kinds of motors and the ability to drive them.

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Important to find out

- Which kind of motor do you need to control?. Which power size ?
- Does your application need Speed, Position or Torque control ? In Open Loop or Close Loop ?
- Do you have your solution based on EtherCAT network ? Modbus ?.
- If EtherCAT, are you interested in FSoE ?. Or standard safety wired solution Safe Stop 0 (STO SIL3 PLe)?

Markets and applications

Material Handling Applications: Conveyors, Feeders, stackers, Hoist.
Advance Machine Functionalities: Winder, Feeders, Rotative table, Press. (Why for both):
Positioning functionality in CLVC / Torque control in CLVC / ELS function in CLVC / SYSMAC solution integration/System digitalization (OPC UA)/Integration at OMRON Safety solution (FSoE) / SYSMAC Library.
High Torque & High Inertia applications: HVAC, Pumps, Fans. (Why):
Torque control in CLVC / SYSMAC solution integration / System digitalization (OPC UA)/Multi rating HHD, HND, HD, ND.
Variable Torque Applications: Centrifuges, Mixers, Compressors. (Why):
Multi rating HHD, HND, HD, ND / SYSMAC solution integration / System digitalization (OPC UA) / SYSMAC Library.

Sales considerations

- M1 has no solution for other Networks than EtherCAT or Modbus.
- M1 Programmability function will be not ready until end of FY23.
- At the moment we have no M1 Finless or M1 HF version.

Competitors

- SIEMENS G120C
- ROCKWELL PowerFlex 525
- LENZE i510/i550
- SCHNEIDER ATV 320
- ABB ACS380
- YASKAWA GA-500