ABB SERVO PRODUCTS

MicroFlex e190 servo drive
One drive, many possiblities

MicroFlex e190 is a compact high-performance servo drive, reimagined for future machine designs.

MicroFlex e190 embraces all major motor feedback types, together with selectable Ethernet technologies. Its versatility provides a migration path for existing designs and future network-centric automation solutions.

One drive, many possiblities

MicroFlex e190 is designed to carry today's control designs into the future. By supporting PTO and analog control, it provides flexible options for existing or legacy applications as well as a migration platform to Ethernet based control and 'IoTSP ready' machine designs through integrated Ethernet:

- EtherCAT®
- POWERLINK
- PROFINET IO
- EtherNet/IP™
- Modbus TCP/IP

Rethinking usability

MicroFlex e190 breaks the mould of similar products by rethinking the usability throughout the product life cycle. MicroFlex e190 introduces a simpler approach to selection, installation, operation and maintenance.

Small improvements that all add up

MicroFlex e190 adds numerous improvements to the MicroFlex series: dual-port PROFINET communication, a newly designed heat sink for better thermal performance, optimized low noise fans and easy to be assembled connectors.

Absolute precision and performance

When matched with e-Series servo motors the MicroFlex e190 provides highly dynamic acceleration through 300% peak torque, with high resolution absolute feedback as standard for optimized performance and productivity.

Powerful motion control

With features such as a second encoder input, an encoder output, and motion programmability, applications such as electronic gearing, CAM, flying shear, labelling and registration control can easily be implemented without the use of an external controller, making it far more versatile than other drives in its class.

Type designation	ABB part number	Current at PWM switching frequency 8 kHz (A)			
		200% 3 s		300% 3 s	
		$I2_n$	$I2_{max}$	$I2_n$	$I2_{max}$
MFE190-04UD-03A0-2	3AXD50000637096	3.00	6.00	2.50	7.50
MFE190-04UD-06A0-2	3AXD50000637102	6.00	12.00	5.25	15.75
MFE190-04UD-09A0-2	3AXD50000637416	9.00	18.00	7.50	22.50

MicroFlex e190 has two different overload modes for user selection: 200%, 300%

$I2_n$ Rated output current in selected overload mode. The rms current when continuous working should be lower than this.

$I2_{max}$ Max output current (last 3 s) in one duty cycle under the selected overload mode.

MicroFlex e190 connection

Simple mounting
- 2 key-holes

PE connection for AC supply

AC power 1-phase or 3-phase
- 200…240 V AC 50/60 Hz

DC bus connection and braking resistor connection
- 270…340 V DC

Separate motor power
- Easy to wire
- Easy to isolate the motor during startup/service

EMC/PE plate
- Shield bonding
- Motor PE

24 V control supply
- Maintain communications and position after the AC power is removed

Simulated encoder output/2nd incremental encoder input
- Electronic gearing (line-shaft) or dual-loop feedback operation

Memory unit
- For backing up the configuration information, firmware, and motion programming

Ethernet ports E1 and E2
2 Ethernet ports with LED indicators for:
- EtherCAT
- POWERLINK
- PROFINET IO

Status/Node ID
- 2 LED network status/error indicators
- 7-segment status display
- 2 hex switches for node ID/protocol setting

Ethernet port E3
- Port for drive commissioning
- Modbus TCP/IP (server/client)
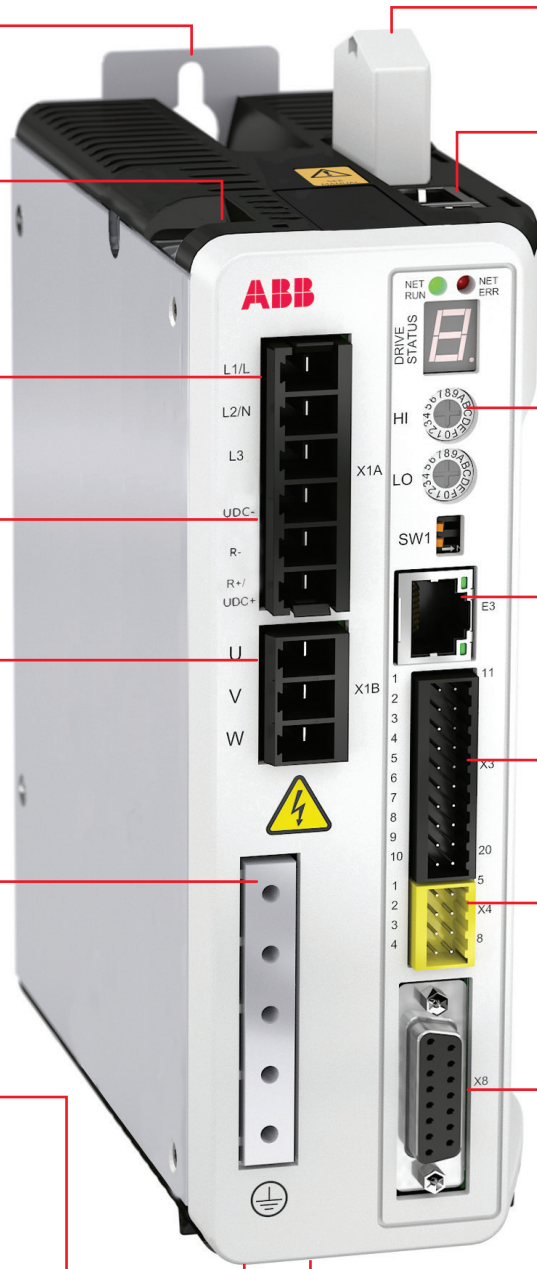- EtherNet/IP

Digital and analog I/O
- 4 DIs, 3 DOs, 1 AIs, 1 AOs
- Including 2 latch inputs for position registration <1 μs latency
- Expandable via OPT-SIO-1 to a total of 10 DIs, 7 DOs, 2 AIs, 1 A0 + serial port 2-wire RS485 or 4-wire RS422

STO PLe SIL 3
- Daisy chain and pulse tolerance
- Allows removal of STO leaving main I/O in-place for system testing

Universal encoder interface
- Incremental (ABZ) + Halls
- 1V pk-pk SinCos, SSI, BiSS-B, EnDat 2.1/2.2
- Smart Inc/Smart Abs and Hiperface
- 5 V/8 V selectable encoder supply
- Resolver support via adapter OPT-MF-201