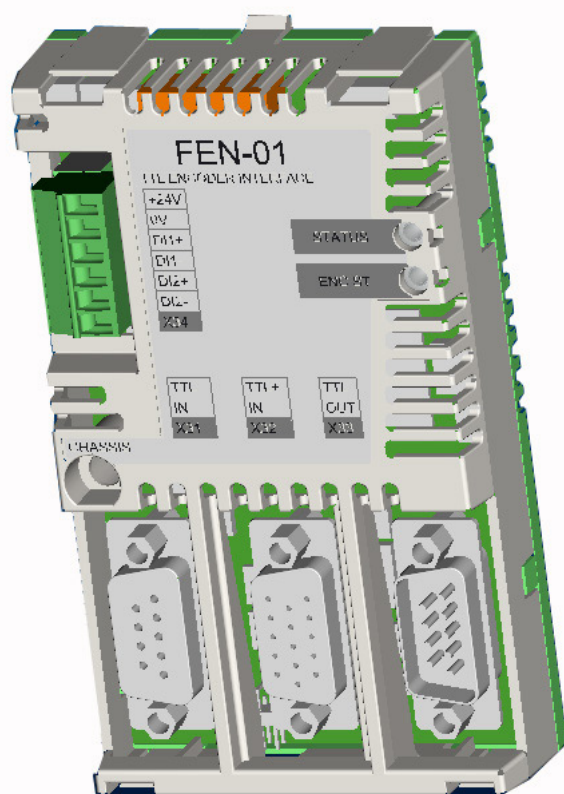


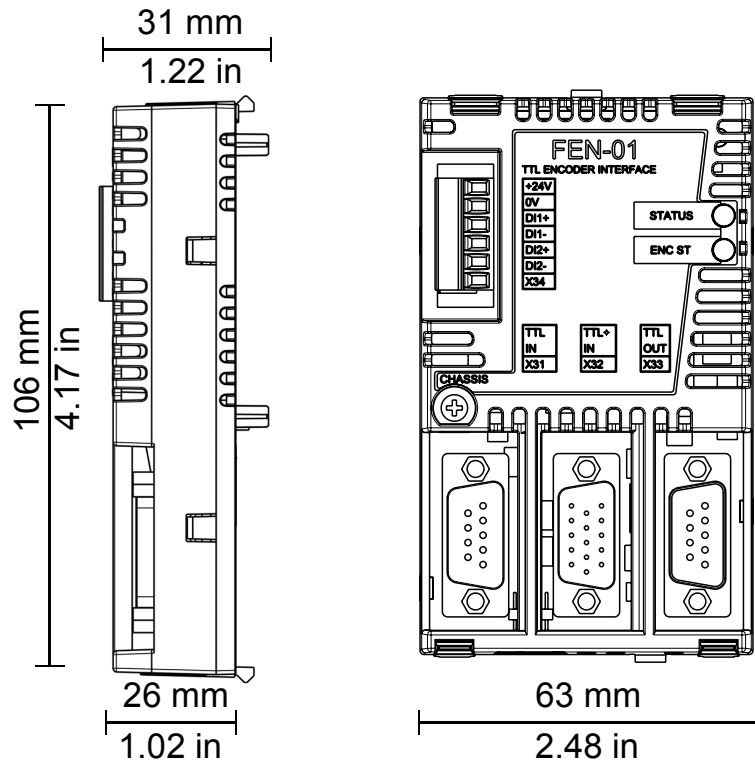
ABB Drives

User's Manual TTL Encoder Interface FEN-01



Technical data

Dimensions:



General

- Max. power consumption: 350 mA at 24 V (Max. combined power consumption of encoders, latches and cabling 5W)
- Degree of protection: IP20
- Ambient conditions: The applicable ambient conditions specified for the drive in its *Hardware Manual* are in effect.

Connectors:

- 20-pin socket
- 9-pin D-sub socket
- 15-pin D-sub socket
- 9-pin D-sub plug

- 6-pin header

TTL encoder input (X31)

- Output voltages:
 - +5.5 V DC -5%, -8%, 180 mA
 - +24 V DC $\pm 15\%$, 150 mA together with digital inputs
 - +5.5 V and +24 V combined maximum power is 3.6 W
- CH A, CH B, CH Z: RS-422/485, differential, 500 kHz (max)
- Maximum cable length:
 - 30 m with a 5 V encoder (0.5 mm² cable for power supply)
 - 60 m with a 5 V encoder (two parallel 0.5 mm² cables for power supply)
 - 100 m with a 10...30 V TTL incremental encoder
- Performance:
 - Speed range: -32768...32767 rpm
 - Speed resolution: 0.04 RPM (24 bits)
 - Position resolution: 16 M / rev (24 bits)
 - Position accuracy: 4x pulse count / rev
- Isolated together with digital inputs

TTL encoder input with commutation support (X32)

- Output voltages:
 - +5.5 V DC +2.5%, -1%, 200 mA
 - +24 V DC $\pm 15\%$, 150 mA
- PTC thermistor input
- CH A, CH B, CH Z, CH U, CH V, CH W: RS-422/485, differential, 500 kHz (max)
- Maximum cable length:
 - 30 m with a 5 V encoder (0.5 mm² cable for power supply)
 - 60 m with a 5 V encoder (two parallel 0.5 mm² cables for power supply)
 - 100 m with a 10...30 V TTL encoder

- Performance:
 - Speed range: -32768...32767 rpm
 - Speed resolution: 0.04 RPM (24 bits)
 - Position resolution: 16 M / rev (24 bits)
 - Position accuracy: 4x pulse count / rev
- Isolated together with TTL encoder emulation output

TTL encoder emulation output (X33)

- Supports emulation of TTL incremental encoder, 1...65535 pulses / rev, reference mark
- CH A, CH B, CH Z: RS-422/485, 500 kHz (max)
- Maximum cable length: 100 m
- Performance
 - Speed range: -32768...32767 rpm
 - Position resolution: 4x pulse count / rev
- Isolated together with TTL encoder input X32

Digital inputs for position latch (X34)

- Output voltage: +24 V DC $\pm 15\%$, short-circuit proof
- Signal levels: $< 5 \text{ V} = 0$, $> 15 \text{ V} = 1$
- Isolated together with TTL encoder input