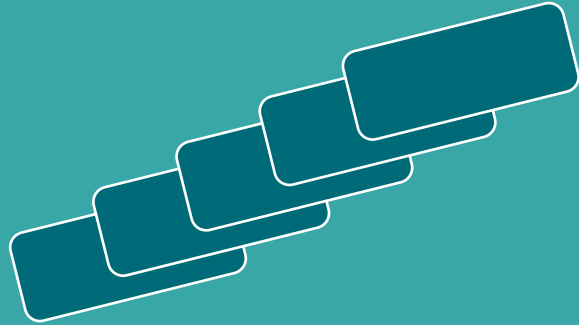


MANUFACTURER-SOURCE TECHNICAL REFERENCE

ABB FEN-31-68978840

Encoder Feedback Planning Guide

HTL encoder interface for compatible ABB drive systems



DOCUMENT SCOPE

Independent Apter Power manual compiled only from the cited ABB manufacturer sources. No product photograph is included.

Product / lookup identity	ABB FEN-31-68978840
Reference number	68978840
Document basis	Published ABB product records, PDFs, and manuals listed on page 3



Product page

<https://www.apterpower.com/ABB/fen-31-68978840>

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Encoder-to-drive signal path

ABB FEN-31 is an HTL encoder interface installed in a compatible ABB drive option slot between the drive control board and an HTL encoder. It receives A, B and Z HTL pulse channels for speed, direction, position and reference-mark feedback, and it provides an isolated A/B/Z TTL encoder-emulation output plus two 24 V digital latch inputs.

01	A compatible HTL encoder generates A, B and Z pulse channels.
02	FEN-31 receives the pulse channels and supplies speed, direction, position and reference-mark feedback to the compatible ABB drive control system.
03	The configured drive uses that feedback for closed-loop speed or position-related control functions.
04	When required, FEN-31 provides a galvanically isolated A/B/Z TTL encoder-emulation output over RS-422/485 to compatible downstream equipment.
05	Two 24 V digital latch inputs and an insulation-compliant motor-temperature sensor connection provide the additional documented interfaces.

Interface boundaries

01	ABB directly verifies FEN-31 under current loose-item code 68978955. The requested code 68978840 was not verified in the cited direct ABB sources and must be confirmed from an ABB nameplate or direct...
02	Do not claim that 68978840 is the current ABB order code; the directly verified current code is 68978955.
03	Confirm compatibility in the exact host drive's ordering information or hardware manual before installation.

Feedback readiness checklist

01	Installation and maintenance are for qualified electricians only.
02	Do not work on a powered drive. Isolate every power source, prevent reconnection, wait five minutes and verify that the drive is discharged before work.
03	Earth the drive and module correctly; the grounding screw is important for EMC performance.
04	Use shielded instrumentation cable, preferably twisted pairs, and keep encoder wiring separate from motor and power cables.
05	Connect a supported motor-temperature sensor only when it has double or reinforced insulation from live motor parts.
06	Program the drive parameters according to the encoder data sheet and the applicable ABB drive manual.

Identity and release controls

Official Product Name	FEN-31 HTL encoder interface
Requested Model	FEN-31
Requested Order Code	68978840
Current Official Order Code	68978955

Official ABB sources

ABB product page: 68978955 FEN-31	https://www.abb.com/global/en/products/68978955
ACS880 single drives catalogue, 3AUA0000098111 Rev T	https://library.e.abb.com/public/8d135332ba3d40108a75863899846497/ACS880_single_drives_catalog_3AUA0000098111_RevT_EN.pdf
FEN-31 HTL Encoder Interface User's Manual, Rev D	https://library.e.abb.com/public/8914f25fdad041ef97cab3ce87c870e8/EN_FEN-31_UM_D.pdf
FEN-31 HTL Encoder Interface Quick Installation Guide, Rev C	https://library.e.abb.com/public/f53b746ce1d54627ad80847ed61f095b/FEN-31_Quick_Guide_C.pdf