

ABB FEN-21 – Requested Code 68679303 Verification

FEN-21 Resolver and Encoder Integration Guide

ABB FEN-21 Resolver and TTL Encoder Interface Module

DOCUMENT SCOPE

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

Product / lookup identity	ABB FEN-21 – Requested Code 68679303 Verification
Reference number	68679303
Document basis	Published ABB product records, PDFs, and manuals listed on page 3



Product page

<https://www.apterpower.com/ABB/fen-21-68679303-nameplate-verification>

Apter Power contact

sales13@apterpower.com | +86 180 3023 5313

Resolver and TTL feedback signal path

ABB FEN-21 is a drive feedback interface for a resolver and a TTL incremental encoder; ABB's current public product ID is 68805848, while requested code 68679303 is not corroborated in the reviewed ABB sources and remains on nameplate/order-record hold. Installed in a supported ABB drive option slot, it converts the resolver's excitation, sine, and cosine signals or the TTL encoder's A/B/Z pulse signals into position and speed feedback used by the drive control program; it can also accept PTC/KTY motor-temperature feedback and two digital position-latch inputs.

01	Resolver Path: FEN-21 supplies a differential sinusoidal excitation to the resolver rotor and receives differential sine and cosine stator signals proportional to rotor angle. The drive uses the decoded result for 24-bit position and speed feedback.
02	Ttl Encoder Input: Differential RS-422/485 A, B, and Z pulse channels provide incremental position, speed, direction, and reference-mark information to the drive at up to 500 kHz.
03	Encoder Emulation: The module can reproduce differential TTL A/B/Z signals with a programmable 1-to-65535 pulses-per-revolution emulation for another receiving device.
04	Temperature Feedback: A KTY84 or PTC motor temperature sensor can be connected through the resolver input only when the required insulation from live motor parts is present.
05	Position Latching: Two 24 V digital inputs capture position events for the drive control program.

Drive, feedback-device, and insulation boundaries

01	Verification Status: MODEL_VERIFIED; REQUESTED_NUMERIC_CODE_NOT_CORROBORATED_IN_REVIEWED_ABB_PUBLIC_SOURCES; NAMEPLATE_OR_ORDER_RECORD_HOLD
02	Exact Mapping: ABB's current public product page identifies FEN-21 as product ID 68805848, and ABB's current FEN-21 manual verifies the model and function. The reviewed ABB public sources did not directly map requested number 68679303 to FEN-21. Do not describe 68679303 as a verified current or former ABB product ID without a matching ABB nameplate or official order record.
03	Lifecycle Status: ABB maintains a current FEN-21 product page and a 2024 Rev E manual. The cited exact sources do not assign an Active, Classic, Limited, or Obsolete phase. Do not invent a lifecycle label for either FEN-21 or requested code 68679303.

Identity, excitation, supply, phasing, and shielding checks

01	Verify the physical ABB label and exact order record before associating requested code 68679303 with FEN-21; ABB's current public product ID is 68805848.
02	Confirm the exact ABB drive, firmware, option slot, resolver/encoder type, pulse count, excitation, and parameter support before installation.
03	Only qualified electrical personnel may work on the drive. Isolate drive mains and all external control circuits, wait the ABB-specified discharge time, and verify absence of voltage.
04	Select +5.5 V or +24 V encoder supply with the jumper before mounting. Remove the jumper if an external encoder supply or another FEN emulation output is connected; the wrong selection can damage the encoder.
05	Keep resolver excitation within 4 to 12 Vrms at 1 to 20 kHz and verify that sine/cosine amplitudes remain within 2 to 7 Vrms for the exact resolver transformation ratio.
06	Use shielded twisted-pair instrumentation cable, terminate shields through the documented connector hood/clamp or terminals, and never route encoder cables parallel to motor or power cables.

Identity and release controls

Verification Status	MODEL_VERIFIED; REQUESTED_NUMERIC_CODE_NOT_CORROBORATED_IN_REVIEWED_ABB_PUBLIC_SOURCES; NAMEPLATE_OR_ORDER_RECORD_HOLD
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Official ABB sources

ABB FEN-21 official product page	https://www.abb.com/global/en/products/68805848
FEN-21 Resolver Interface User's Manual	https://library.e.abb.com/public/d27e80d0db1c4b60b142e5c69ebb387d/EN_FEN-21_UM_E.pdf
ABB ACS850-04 hardware manual	https://library.e.abb.com/public/0be9bbab29e380b5c1257b88001f7002/EN_ACS850_E0_E_HW_C_screen.pdf