

MANUFACTURER-SOURCE TECHNICAL REFERENCE

ABB IMHSS03

Product Reference

ABB IMHSS03 Harmony Rack Hydraulic Servo and Valve Position Module

DOCUMENT SCOPE

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

Product / lookup identity	ABB IMHSS03
Reference number	IMHSS03
Document basis	Published ABB product records, PDFs, and manuals listed on page 3



Product page

<https://www.apterpower.com/ABB/imhss03>
Apter Power contact

sales13@apterpower.com | +86 180 3023 5313

Product role and published parameters

WHAT IT IS, WHAT IT DOES, AND WHERE IT FITS

ABB IMHSS03 is an intelligent Harmony Rack hydraulic servo module for valve-position control. The module drives a servo valve or I/H converter to move a hydraulic actuator and uses LVDT feedback to measure actuator position. System context: ABB IMHSS03 Harmony Rack Hydraulic Servo and Valve Position Module.

Published field	Manufacturer-published value or verified identity note
Function	Hydraulic servo valve-position control
Controller functions	Function code 55 or 150
Power	+5 VDC at 576 mA; +15 VDC at 15 mA; -15 VDC at 12 mA; +24 VDC at 335 mA from termination unit, all typical with ABB tolerances
LVDT secondary inputs	4 analog inputs total; 2 LVDT secondary inputs, each with 2 secondaries; 24 Vpp +/-7 VDC common mode; 10 kohm differential input impedance
LVDT excitation	2 analog primary excitation outputs; 400 Hz to 15 kHz
Servo outputs	4 analog outputs total, arranged as 2 selectable redundant protected outputs; output current/coil impedance combinations per ABB table
Panel meter output	4-20 mA, 300 ohm maximum

System function and signal path

01	System Inputs: Redundant LVDT position feedback, raise/lower/trip-bias contact inputs, and controller demand/configuration.
02	Processing: Onboard microprocessor, memory, and communication circuitry execute valve-position control under function code 55 or 150.
03	Outputs: Protected servo-coil current, I/H converter output, LVDT excitation, scaled panel-meter feedback, unscaled feedback, test output, and hard-manual digital output.
04	Communications: Harmony Rack I/O Expander Bus to the controller; direct field I/O is wired through the termination unit.

Applications, answers, and official sources

- 1 Steam-turbine valve positioning: Controls throttle, governor, and control-valve actuator position using LVDT feedback.
- 2 Gas-turbine fuel-valve control: Regulates servo current to position fuel valves and influence turbine speed.
- 3 Inlet guide vane positioning: Provides closed-loop hydraulic actuator control for guide-vane position.
- 4 Nozzle-angle control: Controls hydraulic nozzle-position mechanisms with redundant feedback/output arrangements.

Frequently asked questions

What is ABB IMHSS03?	It is a Harmony Rack hydraulic servo and valve-position control module.
Which function codes access it?	Function code 55 or 150.
What feedback device does it use?	A linear variable differential transformer, or LVDT.
What can it drive?	A servo valve or I/H converter controlling a hydraulic actuator.
Which turbine devices are typical?	Steam throttle/control valves, gas fuel valves, inlet guide vanes, and nozzle-angle mechanisms.
Does it have redundant servo outputs?	Yes. ABB documents selectable redundant protected servo outputs.

Official ABB sources

ABB Harmony Rack Turbine Control Data Sheet WBPEEUD240010A1	https://library.e.abb.com/public/28a562fcd841b552c1256d12005fbd8a/WBPEEUD240010A1_-_en_Harmony_Rack_Turbine_Control_Data_Sheet.pdf
ABB Harmony Rack I/O Product Overview WBPEEUS240011B1	https://library.e.abb.com/public/429d55ddf7c18f3ec1256d12005fbd8a/WBPEEUS240011B1_-_en_Harmony_Rack_I_O_Product_Overview.pdf
ABB Symphony Plus lifecycle/evolution update - SPHSS13	https://library.e.abb.com/public/0e820d314f9e491380a1bfbf0e7073d1/04_Symphony%20Plus%20life%20cycle%20updates-Jim%20Day.pdf
ABB Symphony Plus HR Series Control and I/O	https://new.abb.com/control-systems/symphony-plus/control-and-io/hr-series-control-and-i-o