Bently Nevada - 3500 Machinery Protection System

3500/77M 176449-07

Four-channel reciprocating cylinder pressure monitor

Verified model data

Manufacturer	Bently Nevada
Exact catalog number	3500/77M 176449-07
Input channels	4
Measured variables	Cylinder pressure, compression ratio, rod load and rod reversal
Input impedance	50 kOhm
Power consumption	7.8 W with transducer supplies at full load
Transducer supply	+23.0 +/- 0.8 VDC; 24.5 mA current limit per channel
Buffered outputs	One short-circuit-protected coaxial output per channel

Documented role

Conditions cylinder-pressure signals and calculates compressor pressure and rod-load variables for comparison with configured Alert and Danger setpoints in a 3500 rack.

Selection and installation check

Confirm the matching cylinder-pressure I/O module, approved pressure transducers, rack software, phase reference, compressor geometry and saved alarm configuration before replacement.

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Additional verified data

Operating temperature	-30 to +65 deg C
Dimensions	24.13 x 2.44 x 24.18 cm (H x W x D)
Weight	0.91 kg
Rack space	1 full-height front slot
Required firmware	3500/77M Revision L or later

System integration

- Install the monitor in one full-height front slot and match it to the correct rear I/O module.
- Use approved cylinder-pressure transducers and verify the +23 VDC channel supply and signal scaling.
- Maintain 3500/77M firmware Revision L or later and the documented minimum rack-software revisions.

Commissioning and use

- Record compressor geometry, channel assignment, phase reference, alarm setpoints and relay logic before replacement.
- Validate pressure channels, compression ratio, rod-load variables and Alert/Danger paths after installation.
- The documented uses include cylinder-pressure protection, compression-ratio calculation and rod-load monitoring on reciprocating compressors.

Evidence boundary: The Dimensions and Weight above are the official monitor-module values for spare part 176449-07; rear I/O module values are different.

Source basis: Baker Hughes publication 147485 Rev. Y.