

1746-WS

HI 1746-WS Weigh Scale Module

Hardy 1746-WS is a self-contained weigh-scale I/O module that plugs into an Allen-Bradley SLC 500 chassis. It converts load-cell signals for gross, net and rate-of-change weighing and exchanges values through scanned I/O and M-file data.

IDENTITY	VERIFIED VALUE
Manufacturer	HARDY
Complete model	1746-WS
Product role	HI 1746-WS Weigh Scale Module
System family	Allen-Bradley SLC 500 Weighing System
Country of origin	USA

DOCUMENT SCOPE

Exact identity, manufacturer-supported technical data, installation checks, applications, precautions and controlled verification records.

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Technical Specifications

PARAMETER	VERIFIED VALUE
Module type	SLC 500 weigh-scale I/O module
A/D conversion	20 bit
Display counts	980,000
Scanned I/O	32 words
M-file data	128 words
WAVERSAVER	0.25 Hz and above; five selectable steps
Weighing modes	Gross, Net and Rate-of-Change
Calibration	C2, test-weight and soft/manual methods
Control outputs	Two TTL outputs for relay control
Weight	1.1 lb / 0.5 kg

Model-Specific Engineering Note

ENGINEERING BOUNDARY

Install 1746-WS in a documented SLC 5/02, 5/03, 5/04 or 5/05 system and record the load-cell wiring, calibration method, WAVERSAVER setting and M-file mapping. Complete zero, span and live-load verification before enabling scale-dependent logic.

Pre-Installation Checks

NO.	REQUIRED CHECK
1	Verify the complete 1746-WS marking and hardware series before installation.
2	Confirm the SLC processor supports the required scanned-I/O and M-file access.
3	Remove chassis and field power before inserting or removing the module.
4	Use ESD controls and preserve the load-cell shield and single-point grounding arrangement.
5	Record load-cell excitation, sense, signal and C2 wiring before disturbance.

System Role and Architecture

Hardy 1746-WS is a self-contained weigh-scale I/O module that plugs into an Allen-Bradley SLC 500 chassis. It converts load-cell signals for gross, net and rate-of-change weighing and exchanges values through scanned I/O and M-file data.

FUNCTION 1

20-bit conversion with 980,000 display counts

FUNCTION 2

WAVERSAVER filtering for mechanical-vibration rejection

FUNCTION 3

C2 electronic calibration plus test-weight and soft calibration

FUNCTION 4

Direct SLC scanned-I/O and M-file data exchange

Common Applications

APPLICATION	ENGINEERING CONTEXT
Hopper and vessel weighing	Converts load-cell signals for batch, inventory and material-handling control.
SLC 500 batching systems	Supplies gross or net weight to PLC logic through the documented data map.
Rate-of-change monitoring	Calculates weight change for controlled filling, discharge or material-flow observation.
Vibration-affected scales	Uses WAVERSAVER filtering to reduce the influence of plant mechanical vibration.

CONTROLLED ACCEPTANCE DUTY

Confirm identity, physical interface, companion hardware, configured values and functional response against the installed-system record before release.

Engineering Precautions

NO.	PRECAUTION
1	Verify the complete 1746-WS marking and hardware series before installation.
2	Confirm the SLC processor supports the required scanned-I/O and M-file access.
3	Remove chassis and field power before inserting or removing the module.
4	Use ESD controls and preserve the load-cell shield and single-point grounding arrangement.
5	Record load-cell excitation, sense, signal and C2 wiring before disturbance.
6	Select the WAVERSAVER frequency from the actual process response, not a copied project.
7	Perform the documented zero and span calibration with an approved method.
8	Prove gross, net, rate, setpoint and PLC data mapping before releasing scale logic.

Model-Specific FAQ — Part 1

QUESTION	ANSWER
Which SLC processors support Hardy 1746-WS?	The manual documents operation in SLC 5/02, 5/03, 5/04 and 5/05 systems subject to the required data-file handling.
What converter resolution does Hardy 1746-WS use?	The module uses a 20-bit analog-to-digital converter and provides 980,000 display counts.
How much scanned I/O is used by Hardy 1746-WS?	The module uses 32 words of scanned I/O and also provides 128 words through M files.
What weighing modes are available in Hardy 1746-WS?	The documented modes are Gross, Net and Rate-of-Change.

Model-Specific FAQ — Part 2

QUESTION	ANSWER
What calibration methods are supported by Hardy 1746-WS?	It supports C2 electronic calibration, hard or test-weight calibration and soft or manual load-cell calibration.
What does WAVERSAVER do in Hardy 1746-WS?	WAVERSAVER filters mechanical vibration from the weight signal, with selectable response settings from 0.25 Hz and above.
Is WS100 software required for Hardy 1746-WS operation?	No. Hardy identifies WS100 as an optional configuration and troubleshooting tool rather than an operating requirement.
What must be tested after replacing Hardy 1746-WS?	Verify load-cell wiring, calibration, zero, span, gross/net/rate values, setpoints, M-file mapping and PLC interlocks.

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MODEL	APTER POWER PAGE
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1746-ia16	View 1746-ia16
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1746-im8	View 1746-im8
1746-io12	View 1746-io12
1746-io8	View 1746-io8
1746-itb16	View 1746-itb16

MANUFACTURER SOURCE RECORD

HI 1746-WS Weigh Scale Module Operation and Installation Manual
Hardy Process Solutions document 0596-0234-01 Rev. J, Series C

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