

PS350-90+ Pulse Sensors

2D Laser Scanner

The new generation of Smart Sensors



- + **Long range**, up to 360 m
- + **Up to 60 m on 3% reflectivity**
- + **Application Programmable Unit**
- + **Web interface**
User friendly integrated web interface
Parameters configuration
Measured profiles preview
- + **Fast scan rate**, up to 40 Hz
- + High lateral resolution
- + Very high accuracy
- + **Multi-echo evaluation technology**,
up to 4 selectable echoes
- + Tough and robust housing, **rate IP67**
- + Operating with rain and snow
- + **Real time data** through Ethernet
- + **Low power consumption**

The new PS350-90+

Low reflective targets, like coal piles, are no more a challenge. Triple-IN's PS350-90+ is the new long-range sensor, with the precise measuring that always distinguishes Triple-IN's products.

PS350-90+ is part of the Smart Sensors family offering faster measurements and the internal programmable APU board. Sensors and applications have never worked so easily together!

Load your application directly in the dedicated internal board and get your desired output.

Sensor	PS350-90+
Article No.	SR-P9XX-110E-P0
WORKING RANGE	
Maximum range @ R = 100%, Lambertian reflector (m)	360
Maximum range @ R = 10%, Lambertian reflector (m)	110
Minimum range (m)	2.7
ACCURACY DATA	
Resolution (mm)	1
Repeatability 1 σ @ strong signal (mm)	6
Repeatability 1 σ @ weak signal (mm)	24
Accuracy (systematic error) (mm)	≤ 5
SPOT PROPERTIES	
Divergence in scan direction ($^{\circ}$)	0.143
Divergence in scan direction (mrad)	2.5
Divergence perpendicular to scan direction ($^{\circ}$)	0.034
Divergence perpendicular to scan direction (mrad)	0.6
Spot close to the sensor window (mm)	12 x 19
Focusing distance (m)	45
SCAN AND PROFILE PROPERTIES	
Maximum scan and profile angle ($^{\circ}$)	90
Scan mirror type	4-mirror polygon
Maximum scanning duty cycle	50%
OPERATIONAL MODES	
Normal Mode	
Beam scan angle step ($^{\circ}$)	0.09
Measurements in 90 $^{\circ}$ scan	1000
Scan rate (Hz)	20
Scan time @ 90 $^{\circ}$ scan (ms)	25
Gap between spots in scan ($^{\circ}$)	0.053 (overlap)
Fine Mode	
Beam scan angle steps in profile ($^{\circ}$)	0.0225
Measurements in 90 $^{\circ}$ scan	1000
Scan rate (Hz)	20
Scan time @ 90 $^{\circ}$ scan (ms)	25
Number of scans per profile	4
Profile rate (Hz)	5
Profile time @ 90 $^{\circ}$ scan (ms)	200
Measurements per profile	4000
Gap between spots in scan ($^{\circ}$)	0.120 (overlap)
Fast Mode	
Beam scan angle step ($^{\circ}$)	0.18
Measurements in 90 $^{\circ}$ scan	500
Scan rate (Hz)	40
Scan time @ 90 $^{\circ}$ scan (ms)	12.5
Gap between spots in scan ($^{\circ}$)	0.037

Sensor	PS350-90+
MULTI-ECHO EVALUATION	
Evaluated echoes	Up to 4
Selectable master echo	From 1 st to 4 th or last echo
TARGET SURFACE TEMPERATURE	
Surface temperature range	T < 500°C
LASER DATA	
Measurement Laser	
Measurement laser type	Pulse Laser Diode
Wavelength (nm)	905
Safety Class; EN 60825-1; 94,96,01	1M
Measurement or pulse rate (kHz)	Up to 40
Red Laser Marker	
Red laser marker type (indicate the spot)	DC Laser Diode
Wavelength (nm)	635-678
Safety Class; EN 60825-1; 94,96,01	2
PROGRAMMABLE INTERNAL BOARD	
Processor	ARM Cortex A8
Processing power	1 GHz
Board memory	512 MB
On-board flash storage	4 GB
Operating system	Linux OS
HARDWARE INTERFACES	
Ethernet	TCP/UDP 100 Mb/s
RS232	115 kBaud, 8n1
Digital outputs	2 x 3.3 to 5 VDC programmable isolated switching outputs
Digital inputs	2 x 3.3 to 5 VDC programmable isolated inputs
External encoder inputs	3.3 to 5 VDC TTL input, channels A/B
SOFTWARE INTERFACES	
Ethernet address configuration	Static and DHCP
Sensor configuration	Terminal mode, Binary commands, Web interface
HTTP Server	for Web interface
POWER SUPPLY	
Power supply	24 VDC ± 5 VDC power supply, 3.3 to 5 VDC for I/O
Direct power supply	✓
PoE power supply	✓
Power consumption (W)	8
Start-up time (s)	< 30
SENSOR PROTECTION	
Ingress Protection rating	IP67
Operating temperature range	-30°C to +50°C
Storage temperature range	-30°C to +70°C
Enclosure	Aluminum die casting, seawater resistant
Enclosure finish	Powder coated
Front window	AR-coated glass
Function in strong sunshine	Ambient light control
DIMENSIONS & WEIGHT	
Height x Width x Length (mm)	247 x 121 x 109
Weight (kg)	2.8

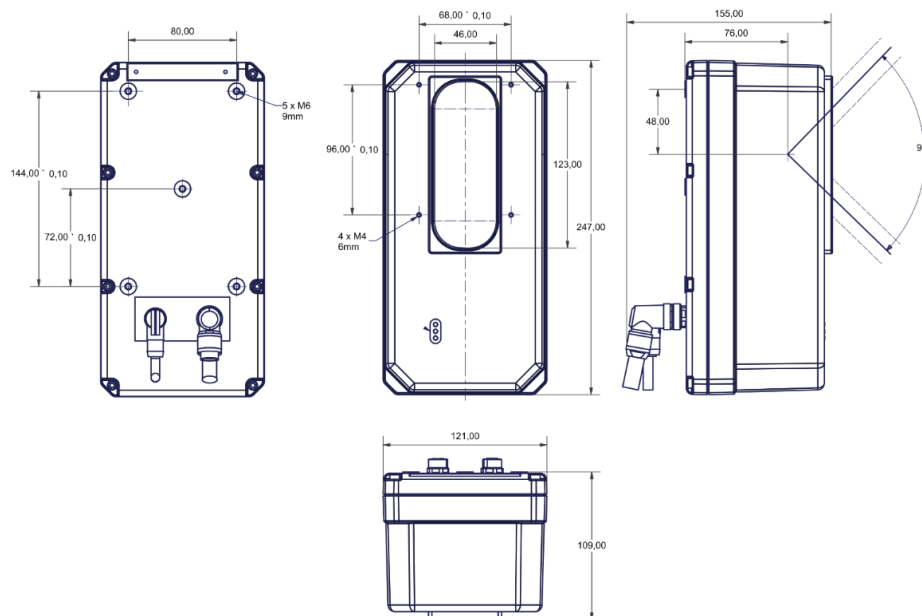
Data Formats of Smart Sensors

Master distance only
Master distance and pulse width
Master distance, signal and echo number
Distance, signal and echo number of master echo
Distance, signal and echo number of master and last echo
Distance of all echoes (maximum 4)

Accessories

Article No.	Description
AC-CBXX-0A1C-00	Multifunction cable without connectors, 5 m
AC-CBXX-1A2C-00	Multifunction cable with connectors, 5 m
AC-CBXX-XB1C-00	Data cable 8 pin Ethernet with POE support, 5 m
AC-CBXX-XB1D-00	Data cable 8 pin Ethernet with POE support, 10 m
AC-CBXX-XB1F-00	Data cable 8 pin Ethernet with POE support, 15 m
AC-CBXX-XD1A-00	Power cable for POE Injector, 2 m
AC-PWXX-XAXX-00	POE Injector
AC-HDXX-XAXX-00	Sensor holder, sensor FOV 90°-180°
AC-HDXX-XBXX-01	Sensor holder, sensor FOV 45°-135°
AC-TBXX-XAXX-00	Universal Tribraich
AC-TBXX-XC1X-00	Triple-IN universal tribraich adapter with screws
AC-PHXX-XA1X-00	Window protection tube for PSxxx-90
AC-DKXX-XA1X-00	Developer kit for PSxxx-90 and PAC (Basic and Plus versions)

PS350-90+ Dimensional Drawing



Triple-IN

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