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Hangzhou Qianjiang Weighing Technology Co., Ltd

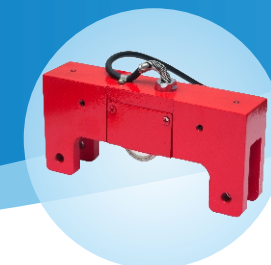
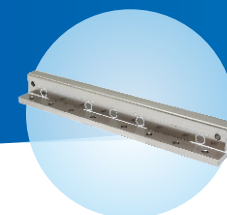
Address: No. 3, Miaochangqiao Road, Liangzhu High-tech Industrial Park, Yuhang District, Hangzhou City, Zhejiang Province
Tel.: 0571-88757028
Website: www.qjcz.com

Newsense B.V.
Address: Trasmolenlaan 5 3447 GZ Woerden The Netherlands
Website: www.newsensetechnology.com
Email: info@newsensetechnology.com



钱江称重
Qianjiang Weighing

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Industrial Multi-sensor Products

Load Cell • High-temperature RFID • LiDAR

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COMPANY PROFILE

Newsense BV, as a member of Qianjiang Weighing tech Ltd group, which has over 40 years of excellence in precision weighing & inspection solutions has been a pioneer in the load cell industry for over decades. Through 40 years of independent research and development, we have evolved into a comprehensive one stop solution provider, seamlessly integrating R&D, manufacturing, installation, and after-sales service. Our specialized portfolio features high-precision strain gauge load cells and WIM,Rail Weighbridge, renowned for their accuracy, durability, and ease of maintenance.

We are the formulator of industry standards and the leader of technological innovation: We own a number of national patents, take the lead in drafting national standards, compile industry qualification tutorials, and carry out in-depth industry-university-research cooperation with top universities such as Zhejiang University and China Jiliang University, so that cutting-edge technologies can be continuously applied to products. From railway safety to port logistics, from iron and steel metallurgy to electric power energy, our products, with the advantages of high precision, easy operation and low maintenance, empower industrial metering in thousands of industries. We always take quality as the foundation and customers as the center, adhere to integrity and dedication, and achieve win-win growth with every partner. In the future, we will continue to take technological innovation as the engine, constantly break through the technical boundaries of weighing detection, inject stronger impetus into the global industrial intelligent upgrading, and join hands with partners to create a new future of high-quality industrial development!

Hangzhou Qianjiang Weighing Technology Co., Ltd. | Founded in 1984
Newsense B.V. Founded in 2025

- ▶ National High-Tech Enterprise
- ▶ Specialized, Refined, Distinctive, and Innovative Small and Medium Enterprises in Zhejiang Province
- ▶ National Standard Drafting Unit
- ▶ Zhejiang Provincial R&D Center
- ▶ Drafter of Zhejiang Made Group Standard
- ▶ Hangzhou Enterprise Technology Center



CE Certificate for Weighing Sensors



EU CE Certificate for LiDAR



Quality management system certification

42 years of focus on the industry

18 invention patents

31 utility model patents

31 design patents

COMPANY HONORS



Strategic Partners

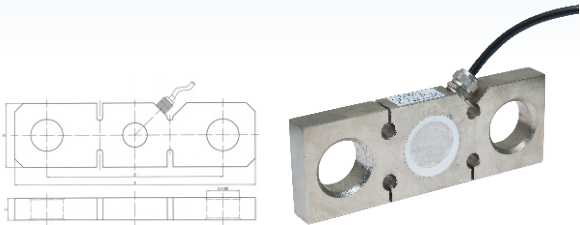


Model CL-YB-13-2

Plate Ring Tension Load Cell

► Product Overview

This sensor adopts a plate ring tension structure, can be directly installed with shackles, has excellent natural linearity and high stability, and is widely used in the manufacturing of weighing apparatus such as electronic crane scales, as well as various force measurement and control systems, providing accurate and reliable data support for industrial force value detection and weighing management and control.



► Product Dimension Parameter Table

Range	Dimension	L	L1	B	H	d
10kN		123	83	40	18	2-Φ17
*10kN		152	112	40	15	2-Φ15
10kN~20kN		182	128	64	20	2-Φ34
20kN		218	140	64	20	2-Φ34
30kN		218	140	64	23	2-Φ34
*30kN		227	140	70	23	2-Φ40
40kN		218	140	64	30	2-Φ34
*40kN)		227	147	70	25	2-Φ40
50kN		218	140	64	35	2-Φ34
*50kN		227	147	70	28	2-Φ40
*50kN		400	308	70	40	2-Φ52
50kN~80kN		350	250	90	29	2-Φ38
*80kN		247	175	72	29	2-Φ38
*80kN		280	180	85	32	2-Φ50
80kN~120kN		272	182	90	50	2-Φ47
*100kN		322	206	95	36	2-Φ55
100kN~120kN		350	250	90	35	2-Φ38
*120kN		370	235	120	40	2-Φ72
*150kN		320	220	95	40	2-Φ50
150kN~170kN		410	250	110	38	2-Φ55
150kN~200kN		294	197	90	50	2-Φ47
200kN		420	300	120	47	2-Φ60
*200kN		440	280	140	30	2-Φ75
250kN		420	300	120	53	2-Φ60
300kN		470	340	130	54	2-Φ62

► core technical specifications of the load cell

(special sizes can be customized according to customer requirements / digital type and high temperature type are optional)

Specification and Parameter	Unit	Parameter value
Accuracy class		Level 0.05
Output sensitivity	mV/V	1.0-2.0
Linearity	%FS	≤0.02%
Repeatability	%FS	≤0.01%
Hysteresis error	%FS	≤0.02%
Input resistance	Ω	375±10
Output resistance	Ω	350±5
Insulation resistance	MΩ	≥5000
Zero-point output	μV	≤200
Operating temperature range	°C	-20 -70
Recommended excitation voltage	V	DC10V
Ultimate load	%FS	200%
Safe overload	%FS	150%
IP grade	-	IP68
Cable specification	-	4-core shielded cable
Wiring definition: Arch bridge: + Red - Yellow Arch bridge: +white - Blue		-

► Product Advantages

Accurate and efficient: Accuracy class 0.05, non-linearity, repeatability and hysteresis error are all ≤0.05%, so the measurement data is accurate and reliable

Convenient installation: With a plate ring tension structure, it can be directly installed through shackles, simplifying the installation process and improving operation efficiency

Stable performance: It has excellent natural linearity and strong long-term use stability, which is suitable for long-term continuous working scenarios

Flexible customization: Range, size, cable specifications, etc. can be customized on demand to adapt to different installation and measurement requirements

Reliable protection: IP68 protection level, dustproof and waterproof, adaptable to complex and harsh industrial working environments, with strong durability



► Applicable Scenarios

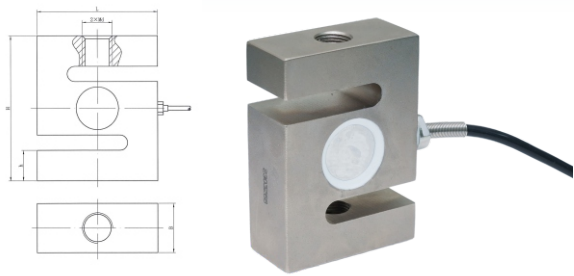
It is widely used in the manufacturing field of weighing apparatus such as electronic crane scales, and can also be adapted to various force measurement and control systems, covering machinery manufacturing, warehousing and logistics, metallurgy and mining, ports and docks and other industries, providing accurate and reliable data support for tension and pressure measurement and weighing management and control.

Model CL-YB-13-2

Plate Ring Tension Load Cell

► Product Overview

This sensor adopts a plate ring tension structure, can be directly installed with shackles, has excellent natural linearity and high stability, and is widely used in the manufacturing of weighing apparatus such as electronic crane scales, as well as various force measurement and control systems, providing accurate and reliable data support for industrial force value detection and weighing management and control.



► Product Dimension Parameter Table

Range	Dimension	L	L1	B	H	d
5kg~10kg		59	50	40	10	2-M6
30kg~200kg		82	65	25	14	2-M12
250kg~300kg		82	65	30	13.5	2-M12
500kg		76	50	25	13.5	2-M12
*500kg		90	87	40	20	2-M16
1t~1.5t		80	62	28	17	2-M20×2
*1t~2t		95	80	40	20	2-M20
1t~3t		108	76	25.5	20	2-M18×1.5
1t~3t		110	94	42	23	2-M18×1.5
2t		90	72	32	21	2-M20×2
2t		90	72	32	21	2-M24
3t		108	95	30	25	2-M20×1.5
3t		106	94	40	22	2-M24
5t		108	76	29	20	2-M18×1.5
5t		134	105	50	30	2-M30
5t~7t		120	100	50	28	2-M30
*7.5t		134	100	31	30	2-M24×2
*7.5t		140	100	38	31	2-M24×2
10t		144	132	60	32	2-M36
*10t		177	135	50	42	2-M30×2
30t		200	160	86	50	2-M52×3

► Core technical specifications of the load cell

(special sizes can be customized according to customer requirements / digital type and high temperature type are optional)

Specification and Parameter	Unit	Parameter value
Accuracy class		C1
Output sensitivity	mV/V	1.5-2.0
Linearity	%FS	≤0.02%
Repeatability	%FS	≤0.01%
Hysteresis error	%FS	≤0.02%
Input resistance	Ω	375±10
Output resistance	Ω	350±5
Insulation resistance	MΩ	≥5000
Zero-point output	μV	≤200
Operating temperature range	°C	-20-70
Recommended excitation voltage	V	DC10V
Ultimate load	%FS	200%
Safe overload	%FS	150%
IP grade	-	IP68
Cable specification	-	4-core shielded cable
Wiring definition: Arch bridge: + Red - Yellow Arch bridge: +white - Blue		-

► Product Advantages

Accurate and efficient: Class C1 accuracy, non-linearity ≤0.01%, repeatability ≤0.02%, ensuring accurate and reliable measurement data

Bidirectional adaptability: Capable of withstanding both tension and compression forces, with excellent symmetry, and adapts to various force value measurement scenarios

Sturdy and durable: IP68 protection rating, ultimate load up to 200%FS, safe overload 150%FS, adaptable to complex and harsh environments

Flexible customization: Measuring range, dimensions, cable specifications and other parameters can be customized as required to meet the needs of different industries and scenarios

Convenient installation: Compact structure and simple wiring, allowing for rapid integration into electronic weighing instruments such as crane scales and hopper scales



► Applicable Scenarios

Widely used in electronic weighing instrument manufacturing (crane scales, hopper scales, etc.), industrial force value detection, machinery manufacturing, warehousing and logistics, metallurgy and mining and other fields, it can realize accurate measurement of tension and compression forces, and provide reliable data support for production operations, equipment monitoring and quality inspection.

Model CL-YB-41

Compression Load Cell

► Product Overview

The CL-YB-41 compression load cell has excellent natural linearity and stability, as well as outstanding advantages such as strong overload resistance and impact resistance. Its structural design is adapted to compression measurement scenarios, and it is widely used in various electronic weighing instruments such as hopper scales, providing accurate and stable data support for industrial weighing and force value detection, and meeting the practical application needs of multiple industries.



► Product Dimension Parameter Table

Dimension Range	D	B	H	d	d1
0.1t~3t	Φ67	92	88	38	4-M6
5t	Φ69	94	91	38	4-M6
7t	Φ80	105	100	38	4-M6
10t~15t	Φ92	110	130	56	4-M8
10t~30t	Φ89	114	138.5	56	4-M8
*15t~30t	Φ115	140	140	56	4-M8
*30t	Φ125	150	160	80	4-M10
*50t	Φ125	150	166	80	4-M10
40t~60t	Φ128	150	178	90	4-M10
70t~100t	Φ105	160	210	85	4-M12
200t	Φ120	160	210	100	4-M12
300t	Φ152	180	210	130	6-M16
500t~1000t	Φ180	210	300	150	6-M20

► Core technical specifications of the load cell

(special sizes can be customized according to customer requirements / digital type and high temperature type are optional)

Specification and Parameter	Unit	Parameter value
Accuracy class	mV/V	C1
Output sensitivity	%FS	1.5-2.0
Linearity	%FS	≤0.03%
Repeatability	%FS	≤0.02%
Hysteresis error	Ω	≤0.03%
Input resistance	Ω	375±10
Output resistance	MΩ	350±5
Insulation resistance	μV	≥5000
Zero-point output	°C	≤200
Operating temperature range	V	-20 -70
Recommended excitation voltage	%FS	DC10V
Ultimate load	%FS	200%
Safe overload	-	150%
IP grade	-	IP68
Cable specification	-	4-core shielded cable
Wiring definition: Arch bridge: + Red - Yellow Arch bridge: +white - Blue		-

► Product Advantages

Stable linearity: It has excellent natural linearity, small measurement data deviation, and strong stability during long-term use, ensuring detection accuracy

Overload and impact resistance: Excellent overload performance and strong impact resistance, capable of adapting to force fluctuations in complex industrial environments, with outstanding durability

Wide range of applications: Widely used in electronic weighing instruments such as hopper scales, adapting to various industrial weighing scenarios, with high practicality

Reliable protection: Protection grade up to IP68, fully dustproof and waterproof, suitable for outdoor and humid industrial environments

Customization flexibility: High-temperature and medium-temperature type sensors can be customized according to customer requirements, and cable specifications can also be adjusted as needed

► Applicable Scenarios

Mainly used in various electronic weighing instruments such as hopper scales, it adapts to industrial weighing scenarios in multiple industries such as machinery manufacturing, warehousing and logistics, metallurgy and mining, and building materials processing, providing accurate and stable data support for weighing management and force value detection, and helping to improve production operation efficiency and quality control level.



Model CL-YB-41-4

Spoke Type Load Cell

► Product Overview

This sensor adopts a spoke-type structure, featuring low height, stable and reliable installation, high precision, strong impact and overload resistance, etc. It is widely used in the manufacturing field of various weighing instruments such as hopper scales, platform scales and truck scales, providing accurate and reliable data support for industrial force value measurement and weighing management and control.



► Product Dimension Parameter Table

Dimension Range	D	d	d1	d2	d3	H	h
*3kN-10kN	Φ95	Φ77	Φ25	Φ16	4-M8 depth 12	44	38
5kN-100kN	Φ68	Φ56	Φ20	Φ14	4-M6 depth 7	39	31
10kN~30kN	Φ95	Φ80	2-M16 depth 14	Φ24	4-M6 depth 14	46	38
20kN	Φ70	Φ60	M14	Φ20	4-M6 depth 8	45	38
50kN	Φ130	Φ100	SR50	Φ22	8-Φ9	57	45
100kN	Φ97	Φ83	Φ16	Φ22	4-M8 depth 14	59	46
100kN	Φ120	Φ102	SR20	Φ38	8-Φ8.5	50	40
100kN	Φ145	Φ112	SR50	Φ30	8-Φ11	62	50
150kN-200kN	Φ170	Φ130	SR70	Φ35	8-Φ13	68	56
300kN	Φ188	Φ142	SR90	Φ40	8-Φ17	68	65
*300kN-500kN	Φ210	Φ170	SR78	Φ55	8-Φ17	72	62
500kN	Φ200	Φ148	SR110	Φ44	8-Φ17	95	80
1000kN~1500kN	Φ300	Φ250	SR120	Φ78	8-Φ25	120	95
2000kN~2500kN	Φ300	Φ250	SR120	Φ78	8-Φ25	150	125

► Core technical specifications of the load cell

(special sizes can be customized according to customer requirements / digital type and high temperature type are optional)

Specification and Parameter	Unit	Parameter value
Accuracy class		Level 0.05
Output sensitivity	mV/V	1.5-2.0
Linearity	%FS	≤0.02%
Repeatability	%FS	≤0.01%
Hysteresis error	%FS	≤0.02%
Input resistance	Ω	750±1
Output resistance	Ω	700±5
Insulation resistance	MΩ	≥5000
Zero-point output	μV	≤200
Operating temperature range	°C	-20 -70
Recommended excitation voltage	V	DC10V
Ultimate load	%FS	200%
Safe overload	%FS	150%
IP grade	-	IP68
Cable specification	-	4-core shielded cable
Wiring definition: Arch bridge: + Red - Yellow Arch bridge: +white - Blue		-

► Product Advantages

Low Height and High Stability: Low overall height, stable and reliable installation method, adapts to various installation scenarios and is not easy to loosen

Outstanding precision: The accuracy grade reaches 0.05 level, with accurate measurement data, which meets the high-precision requirements of various weighing apparatus

Strong impact resistance: It has excellent impact and overload resistance, can adapt to force fluctuations in complex industrial environments, and has high durability

It is compatible with various weighing apparatus such as hopper scales, platform scales and truck scales, covering weighing and measurement scenarios in multiple industries

Customization flexibility: High-temperature and medium-temperature type sensors can be customized according to customer requirements, and cable specifications can also be adjusted as needed

Reliable protection: Protection grade up to IP68, fully dustproof and waterproof, suitable for outdoor and humid industrial environments

► Applicable Scenarios

Widely used in the manufacturing field of various weighing instruments such as hopper scales, platform scales and truck scales, and also adapts to industrial force value measurement scenarios, covering industries such as machinery manufacturing, warehousing and logistics, metallurgy and mining, and building materials processing, providing accurate and stable data support for weighing management and force value detection.

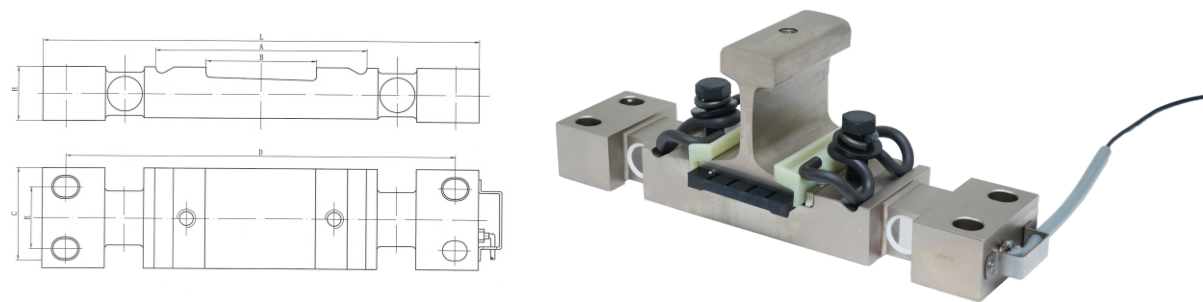


Model CL-YB-51-2

Rail Pad Weighing Load Cell

► Product Overview

The CL-YB-51-2 rail pad type weighing sensor is a specially developed product for the Ministry of Railways with multiple independent intellectual property rights and protected by national patents, which is specially designed for pit-free and rail-unbroken track weighing systems (rail weighers, overload and unbalance load detection) for various light rails, heavy rails and crane rails. This sensor has high natural linearity, excellent impact resistance and long-term stability. Its core indicators such as service life and application reliability are significantly better than similar foreign products. Relevant scientific research institutes under the Ministry of Railways have fully adopted this series of sensors to replace similar imported products since 2004. Since the 1990s, this sensor has been applied in the Railway Science Research Institute, as well as the track weighing and lifting equipment weighing systems of large and medium-sized enterprises in iron and steel, metallurgy, coking, mining and other industries, such as Baosteel, Ansteel, Bengang, Taigang, etc. It provides mature solutions for the demanders of domestic pit-free and rail-unbroken (including special crane rail) track weighing systems and weighing instrument manufacturers, and also pioneers the history of manufacturing pit-free and rail-unbroken track weighing devices for crane rails.



► Product Advantages

Leading Patent Technology: With multiple independent intellectual property rights and protected by national patents, its technical level has reached the international advanced level. Its service life and reliability are better than similar foreign products, and it has fully replaced imported products

Flexible structure: It provides multiple structural designs such as ultra-thin type (Series A) and ultra-narrow type (Series B), which are adaptable to different installation scenarios; With a multi-support force-bearing design, the output signal is proportional to the external force, and the number of sensors can be flexibly increased or decreased to adapt to different weighing requirements

Excellent performance: It has high natural linearity, excellent impact resistance and long-term stability, and can realize dynamic and static rapid weighing and overload and unbalance load detection

Convenient installation: Specially designed for the no-foundation continuous rail track weighing system, it does not require modification of the original track structure, and is compatible with various rail types such as light rail, heavy rail, and crane rails

Industry recognized: Since the 1990s, it has been successfully applied in the Institute of Railway Sciences and many large domestic enterprises, and has been widely recognized by weighing apparatus experts, designers and the majority of users

Wide adaptability: It has a series of products applicable to U38, U43, U50, U60, U65, U75, QU80, QU85, QU100 and QU120 rails, and is compatible with all types of rails

► Core technical specifications of the load cell

Model/Specification	Range specifications
CL-YB-51-2 Conventional Type	15t, 20t, 30t, 60 (t, flat slope)
CL-YB-51-2 A Ultra-thin Type	10t, 15t, 20 (t, slope)
CL-YB-51-2 AT Ultra-thin Type Dual-channel (lateral force) Output	10t, 15t, 20 (t, slope)
CL-YB-51-2 B Narrow Type Assembled	10t, 15t, 20 (t, slope)
CL-YB-51-2 C Type	10t, 15t, 20t, 30 (t, slope)
CL-YB-51-2 CP Type	10t, 15t, 20 (t, flat slope)
CL-YB-51-2 CT Type Dual-channel (lateral force) Output	10t, 15t, 20 (t, slope)

► Technical Specifications

Specification and Parameter	Unit	Parameter value
Accuracy class		D0.5
Input resistance	Ω	750 ± 10
Output resistance	Ω	705 ± 5
Insulation resistance	M Ω	≥ 5000
Zero-point output	μV	≤ 200
Compensated temperature range	$^{\circ}C$	-20 -70
Operating temperature range	$^{\circ}C$	-20 -70
Recommended excitation voltage	V	DC10V
Ultimate load	%FS	200%
Safe overload	%FS	150%
IP grade	-	IP68
Cable specification	-	4-core shielded cable
Wiring definition: Arch bridge: + Red - Yellow arch bridge: +white - Blue		-

► Applicable Scenarios

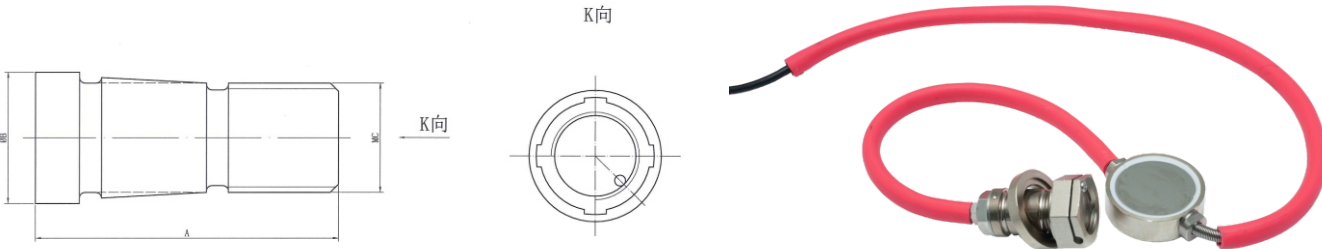
It is widely used in high-speed railway freight train transportation lines, realizing dynamic (static) rapid weighing and rapid overload and unbalance load detection for foundation-free continuous rails; Since the 1990s, it has been applied to the Institute of Railway Sciences, as well as the track weighing and lifting equipment weighing systems of large and medium-sized enterprises in steel, metallurgy, coking, mining and other industries, such as Baosteel, Ansteel, Benxi Steel, and Taigang.



CL-YB-61 Type Rail Insertion Weighing Load Cell

► Product Overview

This sensor is a patented product of our company with multiple independent intellectual property rights, and is also a key scientific and technological breakthrough project of the Ministry of Railways during the "Eighth Five-Year Plan" period and a key promotion project during the "Tenth Five-Year Plan" period. The detection accuracy of the sensor after assembly is 0.1~0.05% F·S, which fills the domestic gap and reaches the international advanced level. Now it has been widely used in dynamic and static track weighing systems for various freight trains, tank cars, molten iron torpedo tank cars, mining cars, dumpers, slag cars, coal charging cars in the coking industry, crown blocks, etc. in railway and industrial enterprises, as well as in track scales and railway overload and unbalance load detection systems. This series of sensors has the advantages of compact structure, high precision, good stability, convenient installation and replacement, etc.; Its various technical indicators and performances are better than similar products in developed countries, its technical level has reached the international advanced level, and it is deeply recognized and praised by users.



► Product Advantages

- Efficient response:** It has fast dynamic response speed, which can meet the response demand of dynamic speed of 120km/h, and has strong impact resistance, vibration resistance and anti-interference ability
- Convenient installation:** It is convenient for installation and maintenance, and can be directly drilled, installed and debugged on the rail waist of the original railway subgrade during the interval between train operations, without complex procedures
- No foundation required:** It can be used to manufacture dynamic and static track weighing systems, no need to build a concrete foundation with a foundation pit, and no need to block the level crossing for a long time or interrupt train operation and production
- Environment and adaptation:** It has strong resistance to water, freezing and corrosive gas erosion, and its safety and reliability fully meet the requirements of the Ministry of Railways
- Wide adaptability:** It has a series of products applicable to U38, U43, U50, U60, U65, U75, QU80, QU85, QU100 and QU120 rails, and is compatible with all types of rails
- Uniform precision:** When a wheel drives onto and stops at any position within the effective weighing area of each group of sensors, under the same load, the output value of its signal remains consistent
- Superior structure:** It is directly drilled and installed on the whole long rail, which overcomes the defects such as unsafety, high replacement cost and instability of sensors with short rail and rail patch structure in application
- Technological leadership:** Its various technical indicators and performances are better than similar products in developed countries, and its technical level has reached the international advanced level, filling the domestic gap

► Core technical specifications of the load cell

(special sizes can be customized according to customer requirements / digital type and high temperature type are optional)

Specification and Parameter	Unit	Parameter value
Accuracy class		D0.1
Output sensitivity	mV/V	1.3-1.8
Linearity	%FS	≤0.1%
Repeatability	%FS	≤0.1%
Hysteresis error	%FS	≤0.1%
Input resistance	Ω	375/750±10
Output resistance	Ω	350/700±11
Insulation resistance	MΩ	≥5000
Zero-point output	μV	≤320
Compensated temperature range	°C	-20 -70
Operating temperature range	°C	-20 -70
Recommended excitation voltage	V	DC10V
Ultimate load	%FS	200%
Safe overload	%FS	150%
IP grade	-	IP68
Cable specification	-	4-core shielded cable
Wiring definition: Arch bridge: + Red - Yellow Arch bridge: +white- Blue		-

► Applicable Scenarios

- Railway freight transportation scenarios:** It is compatible with dynamic and static track weighing of various freight trains and tank cars, monitors train load in real time, and meets the requirements of railway overload and unbalance load detection
- Metallurgical and mining scenarios:** Applied to the weighing systems of hot metal torpedo cars, mining cars, car dumpers, and slag cars to achieve accurate monitoring of material weight during the production process
- Coking industry scenarios:** It adapts to the weighing requirements of coal charging cars, realizes precise control of coal loading volume, and guarantees production efficiency and product quality
- Industrial Lifting Scenario:** The weighing system used for overhead cranes monitors the weight of hoisted materials in real time to ensure safe and accurate lifting operations
- Rail weighbridge system:** Integrated into rail weighbridge equipment, no concrete foundation for foundation pit is required, realizing convenient installation and accurate detection of rail weighing
- Various rail adaptation scenarios:** Adapts to the full series of rails from U38 to QU120, and is widely used for various rail weighing needs such as railway trunk lines and special tracks for industrial and mining enterprises

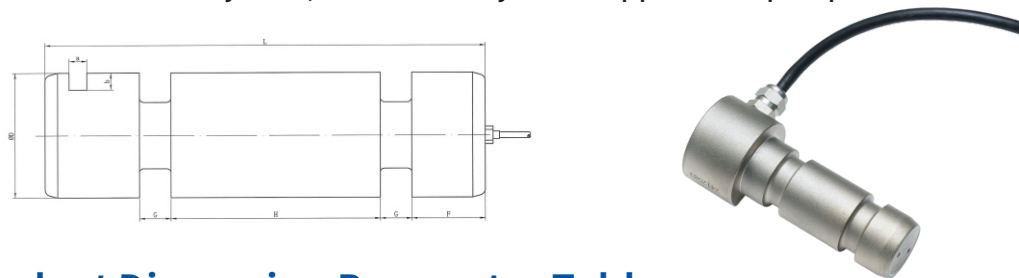


Model CL-YB-61-1

Pin Shaft Load Cell

Product Overview

The CL-YB-61-1 pin-type load cell has a reasonable and compact structure, high precision, good stability, and convenient installation and replacement. Its various technical parameters have reached and are superior to the advanced level of similar products in developed countries. This sensor can be flexibly installed in various components at the joint of two metal structures. It can not only replace the function of the original shaft, but also play the role of weighing and force measurement, greatly simplifying the mechanical components of the weighing and force measurement control system, and has a very broad application prospect.



Product Dimension Parameter Table

Range	Dimension	Φd	L	L1	ΦD	F	G	H	a	b
0.5~3t		30	96	60	44	10	8	≤24	5.3	4
0.5~3t		30	103	71	44	11	8	≤33	5.3	4
0.5~3t		30	107	75	44	13	8	≤33	5.3	4
0.5~3t		30	110	76	44	20	8	≤19	5.3	4
0.5~3t		30	120	71	44	11	8	≤33	5.3	4
1~5t		38	145	109	44	30	8	≤33	5.3	4
1~8t		40	112	80	44	15	10	≤30	5.3	4
1~8t		40	123	91	49	14	10	≤42	5.3	4
1~8t		40	132	88	49	18	12	≤28	5.3	4
3~15t		50	130	93	54	19	12	≤31	10	6
3~15t		50	145	112	50	16	12	≤56	10	6
3~15t		50	180	144	54	40	12	≤40	10	6
3~12t		50	308	282	50	21	42	≤56	6.3	6
8~25t		60	152	101	64	22	12	≤33	10	10
8~25t		60	151	102	64	23	12	≤33	10	10
8~25t		60	176	123	64	18.5	14	≤58	10	10
8~30t		70	166	110	70	14	12	≤58	10	10
8~30t		70	166	120	70	39	23	≤42	8.5	10
10~35t		80	350	299	95	60	24.5	≤130	10	12
10~50t		88	192	131	80	15.5	12	≤76	10	12
10~50t		90	310	260	70	27	50	≤160	10	12
10~60t		100	410	390	100	50	70	≤150	10	12
10~100t		120	306	230	140	50	12	≤108	12	16
10~100t		130	345	321	110	27	45.5	≤200	12	17

Core technical specifications of the load cell

(special sizes can be customized according to customer requirements / digital type and high temperature type are optional)

Specification and Parameter	Unit	Parameter value
Accuracy class		0.5
Output sensitivity	mV/V	0.8-1
Linearity	%FS	≤0.5%
Repeatability	%FS	≤0.2%
Hysteresis error	%FS	≤0.5%
Input resistance	Ω	375±10/750
Output resistance	Ω	350±5/705
Insulation resistance	MΩ	≥5000
Zero-point output	μV	≤300
Operating temperature range	℃	-20 -70
Recommended excitation voltage	V	DC10V
Ultimate load	%FS	200%
Safe overload	%FS	150%
IP grade	-	IP68
Cable specification	-	4-core shielded cable
Wiring definition: Arch bridge: + Red - Yellow Arch bridge: +white - Blue		-

Product Advantages

Excellent structure: Reasonable and compact structure, scientific design, adapts to a variety of installation scenarios, and occupies small space
Stable accuracy: High measurement accuracy, good long-term use stability, reliable data output, and meets the requirements of high-precision force measurement
Convenient installation: The installation and replacement process is simple, no complex operation is required, and it can be quickly adapted to various types of equipment
Advanced technology: Various technical parameters have reached and are superior to the advanced level of similar products in developed countries, with outstanding performance
Dual functions: It can not only replace the function of the original shaft, but also act as a weighing and force measuring sensor, realizing one product with two functions
Wide application: Adapts to a variety of metal structure connecting components, can be applied to multiple industries, and has strong scenario adaptability
Reliable protection: Protection grade up to IP68, fully dustproof and waterproof, suitable for outdoor and humid industrial environments
Customization flexibility: High-temperature and medium-temperature type sensors can be customized according to customer requirements, and cable specifications can also be adjusted as needed

Applicable Scenarios

Construction machinery field: For equipment such as cranes, loaders, excavators, etc., to monitor the stress of mechanical joints and hoisting weight;
Port and wharf field: For container cranes, quay cranes, gantry cranes, etc., to realize real-time detection and management of cargo hoisting weight;
Metallurgical and mining field: For mine hoists, belt conveyors, metallurgical equipment, etc., to monitor operating stress and prevent overload damage
Field of transportation: For suspension systems and braking systems of automobiles, rail transit and other equipment, to detect stress parameters;
Water conservancy and hydropower field: For gate hoists, water conservancy machinery, etc., to monitor the stress during the opening and closing process;
General industrial field: Various force measurement scenarios at the joints of metal structures, such as production line tension detection and equipment assembly force monitoring.



Hook Weighing Load Cell

► Product Overview

This sensor is a weighing sensor specially developed for the lifting of suspended railway containers. When in use, it directly replaces the lock hook on the spreader without modifying the original structure. When the spreader lock hook locks the container and lifts it, it can collect the force value borne by the sensor in real time. Compared with previous sensors of the same type, it has achieved breakthrough technical improvements in structural design, which greatly improves the accuracy and repeatability of detection data during use after installation.



► Core technical specifications of the sensor

(special sizes can be customized according to customer requirements / digital type and high temperature type are optional)

Specification and Parameter	Unit	Parameter value
Accuracy class		D1
Output sensitivity	mV/V	1.5-2.0
Linearity	%FS	≤0.05%
Repeatability	%FS	≤0.05%
Hysteresis error	%FS	≤0.05%
Input resistance	Ω	750±10
Output resistance	Ω	700±5
Insulation resistance	MΩ	≥5000
Zero-point output	μV	≤200
Operating temperature range	°C	-20 -70
Recommended excitation voltage	V	DC10V
Ultimate load	%FS	200%
Safe overload	%FS	150%
IP grade	-	IP68
Cable specification	-	4芯屏蔽线
Maximum range		20t
Power supply voltage		12V DC

► Product Advantages

High adaptability Specially developed for the lifting of suspended railway containers. There is no need to modify the original structure of the spreader, and it can be used by directly replacing the lock hook of the spreader

Safety and reliability The ultimate tensile force reaches 145 tons, and the performance remains almost unchanged after 250,000 fatigue tests, which fully complies with national standards and safe use requirements

Outstanding precision: Breakthrough technical improvement has been realized in structural design, and the accuracy and repeatability of detection data have been greatly improved

Environment and adaptation: Strong resistance to water, freezing and corrosive gas erosion, and meets the requirements of overweight and unbalanced load for container freight

Quick response: Fast dynamic response speed, strong impact resistance, vibration resistance and anti-interference ability, and adapts to dynamic lifting scenarios

Flexible interface: Designed with different lock hook heads and installation interfaces, which can adapt to various types of spreaders

Easy maintenance: Simple installation and maintenance, no complex operation is required, which reduces the later use cost

Excellent protection: The protection grade reaches IP68, which is completely dustproof and waterproof, and adapts to complex outdoor and industrial environments

Support customized dimensions: It can be tailored according to the actual on-site equipment and structure, and adapts to various on-site working condition installations

► Applicable Scenarios

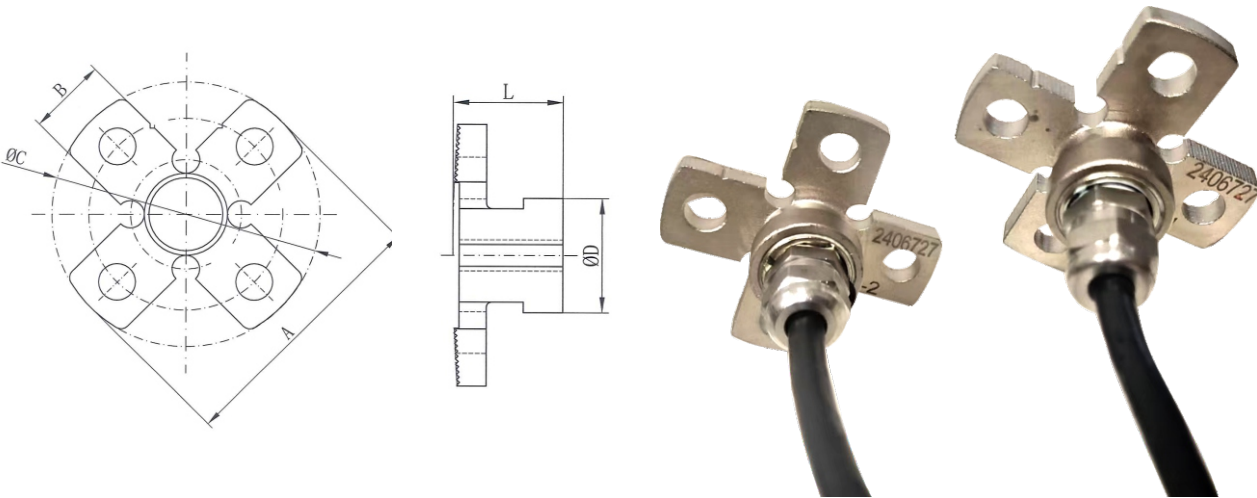
It has a wide range of application scenarios. It is not only suitable for railway container freight yards, but also can be applied to various lifting and weighing working conditions such as port and wharf container freight yards. It has strong versatility and adapts to various container hoisting operation environments.



Clamping Force Load Cell

► Product Overview

This sensor is specially designed for track safety inspection scenarios, and is corely applied in the process of track construction and later operation to accurately monitor the stress state of the track, thereby realizing effective management and control of the train operation state and track structure state. As a key component of track safety monitoring, this sensor needs to perform the function of a "shear force sensor" on both sides of the track to accurately capture track stress data and provide reliable data support for the safe operation of the track. It has the advantages of stable accuracy, strong environmental adaptability, and convenient installation, and can be widely used in various track safety monitoring scenarios.



► Product Advantages

- Efficient response: It has fast dynamic response speed, which can meet the response demand of dynamic speed of 120km/h, and has strong impact resistance, vibration resistance and anti-interference ability
- Convenient installation: Convenient installation and maintenance, no punching required, no complicated procedures needed.
- No foundation required: It can be used to manufacture dynamic and static track weighing systems, no need to build a concrete foundation with a foundation pit, and no need to block the level crossing for a long time or interrupt train operation and production
- Environment and adaptation: It has strong resistance to water, freezing and corrosive gas erosion, and its safety and reliability fully meet the requirements of the Ministry of Railways
- Wide adaptability: We have a series of products applicable to U38, U43, U50, U60, U65, U75, QU80, QU85, QU100 and QU120 steel rails, which are compatible with various types of steel rails.
- Uniform precision: When the wheel drives onto and stops at any position within the effective weighing area of each group of sensors, the output value of the signal remains consistent under the same load.

► Core technical specifications of the load cell

(special sizes can be customized according to customer requirements / digital type and high temperature type are optional)

Specification and Parameter	Unit	Parameter value
Accuracy class		0.5
Output sensitivity	mV/V	0.270-0.340
Linearity	%FS	≤0.5%
Repeatability	%FS	≤0.5%
Hysteresis error	%FS	≤0.5%
Input resistance	Ω	380
Output resistance	Ω	352
Insulation resistance	MΩ	≥5000
Zero-point output	μV	≤200
Compensated temperature range	°C	-20 -70
Operating temperature range	°C	-20 -70
Recommended excitation voltage	V	DC10V
Ultimate load	%FS	200%
Safe overload	%FS	150%
IP grade	-	IP68
Cable specification	-	4-core shielded cable
Wiring definition: Arch bridge: + Red - Yellow Arch bridge: +white - Blue		-

► Applicable Scenarios

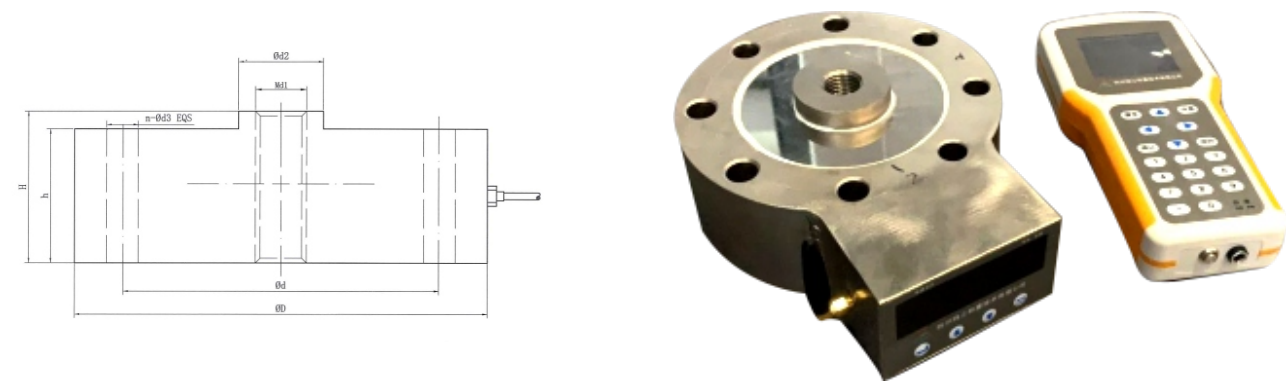
- Railway freight transportation scenarios: It is compatible with dynamic and static track weighing of various freight trains and tank cars, monitors train load in real time, and meets the requirements of railway overload and unbalance load detection
- Metallurgical and mining scenarios: Applied to the weighing systems of hot metal torpedo cars, mining cars, car dumpers, and slag cars to achieve accurate monitoring of material weight during the production pro
- Coking industry scenarios: It adapts to the weighing requirements of coal charging cars, realizes precise control of coal loading volume, and guarantees production efficiency and product quality.
- Industrial Lifting Scenario: Weighing system for crown cranes, which monitors the weight of hoisted materials in real time to ensure the safety of lifting operations.
- Precision track scale system: Integrated in track scale equipment, no foundation pit concrete foundation is required, realizing convenient installation and accurate detection of track weighing.
- Various steel rail adaptation scenarios: Adapts to the full series of rails from U38 to QU120, and is widely used for various rail weighing needs such as railway trunk lines and special tracks for industrial and mining enterprises



Wireless Force Measuring Load Cell

► Product Overview

This wireless force measuring sensor is specially designed for the detection (calibration) of weighing devices.



► Product Dimension Parameter Table

Range	Dimension	D	d	d1	d2	d3	H	h
150kN-200kN		Φ170	Φ130	SR70	Φ35	8-Φ13	68	56
300kN		Φ188	Φ142	SR90	Φ40	8-Φ17	68	65
*300kN-500kN		Φ210	Φ170	SR78	Φ55	8-Φ17	72	62
500kN		Φ200	Φ148	SR110	Φ44	8-Φ17	95	80
1000kN~1500kN		Φ300	Φ250	SR120	Φ78	8-Φ25	120	95
2000kN~2500kN		Φ300	Φ250	SR120	Φ78	8-Φ25	150	125

► Product Advantages

Accurate and efficient: Accuracy class of 0.05, errors such as non-linearity and repeatability are all $\leq 0.05\%$, and the measurement data is accurate and reliable.

Wireless convenience: One-to-one remote operation, no on-site wiring required, which saves labor costs and improves work efficiency.

Sturdy and durable: IP68 protection rating, ultimate load up to 200%FS, safe overload of 150%FS, adaptable to complex and harsh environments.

Flexible customization: Temperature range, cable specifications, etc. can be customized as needed to adapt to the needs of different industries and different scenarios.

Complete supporting facility Dedicated wireless handheld terminal, convenient parameter adjustment and data reading, low operation threshold.

► Core technical specifications of the load cell

(special sizes can be customized according to customer requirements / digital type and high temperature type are optional)

Specification and Parameter	Unit	Parameter value
Accuracy class		0.05级
Output sensitivity	mV/V	1.5-2.0
Linearity	%FS	$\leq 0.05\%$
Repeatability	%FS	$\leq 0.05\%$
Hysteresis error	%FS	$\leq 0.05\%$
Input resistance	Ω	750 ± 1
Output resistance	Ω	700 ± 5
Insulation resistance	M Ω	≥ 5000
Zero-point output	μV	≤ 200
Operating temperature range	$^{\circ}C$	-20 -70
Recommended excitation voltage	V	DC10V
Ultimate load	%FS	200%
Safe overload	%FS	150%
IP grade	-	IP68
Cable specificatio	-	4-core shielded cable
Wiring definition: Arch bridge: + Red - Yellow Arch bridge: +white - Blue		-
One-to-one transmission distance	米	≥ 100
Battery Capacity	-	12580mWh,6800mAh
Normal operating temperature range	$-^{\circ}C$	-20~70
Temperature range in charging state	$^{\circ}C$	10~40
Performance parameters of the matching wireless handheld data terminal		
Zero setting range	-	0.0~7.7
Zero tracking	-	0.0~9.9
Total coefficient	-	0~99999

► Applicable Scenarios

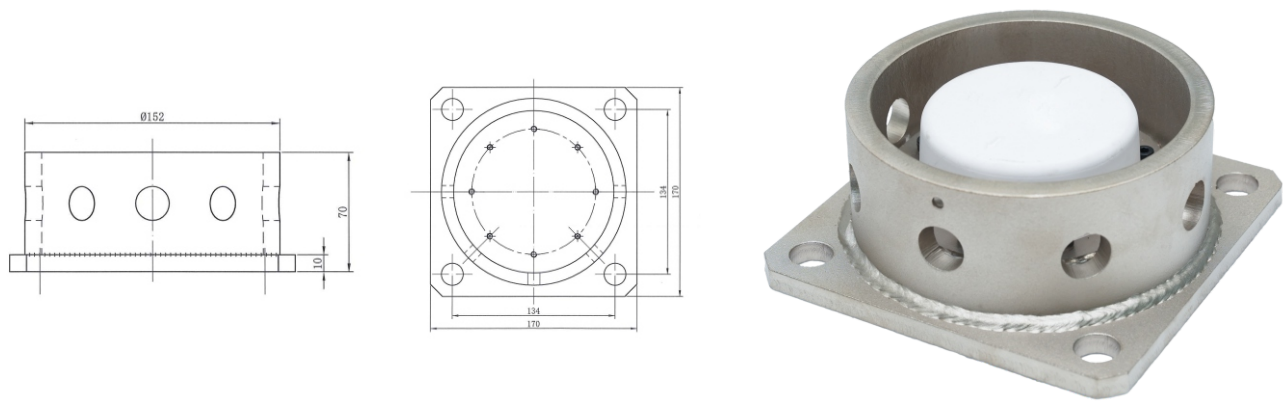
Ip68 protected wireless weighing sensor requires no wiring, and is suitable for multiple scenarios such as overload and unbalanced load detection of railway freight cars, container lifting at wharves, weighing of mine loaders, weighing of warehouse AGVs and silo tanks, overload monitoring of engineering machinery hoisting, mobile overload control and weighing, grain, oil and chemical washing production lines, weighing of agricultural and livestock material towers and sanitation garbage, etc. It can adapt to harsh working conditions such as rain and water immersion, dust and salt spray, and open field environments.



High Temperature Label

Product Overview

Adopting Alien Higgs-3 chip and high temperature resistant technology, it is specially designed for extreme temperature environments. Special heat insulation materials + imported heat insulation fillers + heat dissipation design + point installation effectively reduce heat conduction. With high-performance tag identification equipment, the maximum tag reading distance can reach 50 meters. It has the characteristics of high temperature resistance, multi-frequency band, long identification distance, fast speed, high accuracy, strong anti-interference ability, excellent protection performance, and convenient installation and use, suitable for tag identification and data management in industrial high-temperature environments.



Core technical parameters

S/N	Parameter Name	Parameter value
1	Operating temperature	-40℃ ~ 380℃ (the limit instantaneous temperature can reach 600℃)
2	Recognition distance	≤50 meters (the reading distance is related to the identification device and the application environment)
3	Identification speed	≤40km/h
4	Error code rate	≤0.01%
5	Tag protocol	EPC Class1 Gen2, ISO18000-6C
6	Operating frequency band	(US standard) 902-928MHz, (EU standard) 865-868MHz
7	Supported working areas	China 1, China 2, US, Europe, Japan, Korea
8	Core	Alien Higgs-3
9	Storage	EPC 96bits, user area 512bits, TID 64bits
10	Data storage	50 years
11	IP grade	IP67
12	Product dimensions	170*170*70
13	Other features	With anti-collision protection design; Dust-proof and maintenance-free; The base is installed reliably, and the tag is detachable and replaceable.

Product Advantages

This product has outstanding comprehensive performance advantages and excellent environmental adaptability. It can withstand extreme temperature conditions such as high and low temperatures. Relying on the double-layer heat insulation structure and IP67 high-standard protection, it realizes waterproof, dustproof, heat insulation and heat dissipation. Combined with the anti-collision structure, it provides solid physical protection, and can be used stably and for a long time in various harsh working conditions.

It has outstanding identification capability, takes into account both long-distance and high-speed identification, and has accurate and reliable data transmission. At the same time, it is compatible with a variety of international common communication protocols and multiple frequency bands, adapting to diversified application scenarios at home and abroad.

It has solid hardware configuration, equipped with a high-performance main control chip, sufficient storage space, and data can be stored and traced for a long time. Combined with the user-friendly structural design of convenient disassembly and assembly, it facilitates later installation, operation and maintenance and accessory replacement, effectively reducing later maintenance investment and improving overall management and control efficiency.

Applicable Scenarios

Accurately adapts to various extreme environments and industrial needs: High-temperature industrial production scenarios: It can adapt to high-temperature production environments such as metallurgy, iron and steel, and coking, and is used for tag identification and data traceability of equipment and materials. It can withstand extreme high temperatures and ensure stable data collection.

High-temperature logistics and transportation scenarios: It can be used for tracking the transportation process of high-temperature materials and high-temperature equipment, with an identification speed ≤40km/h, adapting to fast-moving transport vehicles and realizing real-time data update.

Harsh environment operation and maintenance scenarios: With IP67 protection rating, it has the advantages of waterproof, dustproof and physical impact resistance, and is suitable for harsh environments such as outdoor areas, places with much dust and high humidity, reducing maintenance costs and ensuring long-term stable use.

Global multi-region application scenarios: It supports multiple frequency bands such as US standard and EU standard, is compatible with tag protocols in different regions, and can meet the application needs of multiple regions around the world such as China, the US, Europe, Japan and South Korea.

Long-period data traceability scenarios: Relying on 50-year data storage capability and large-capacity storage design, it is suitable for industrial scenarios that require long-term data traceability, ensuring data security and traceability.

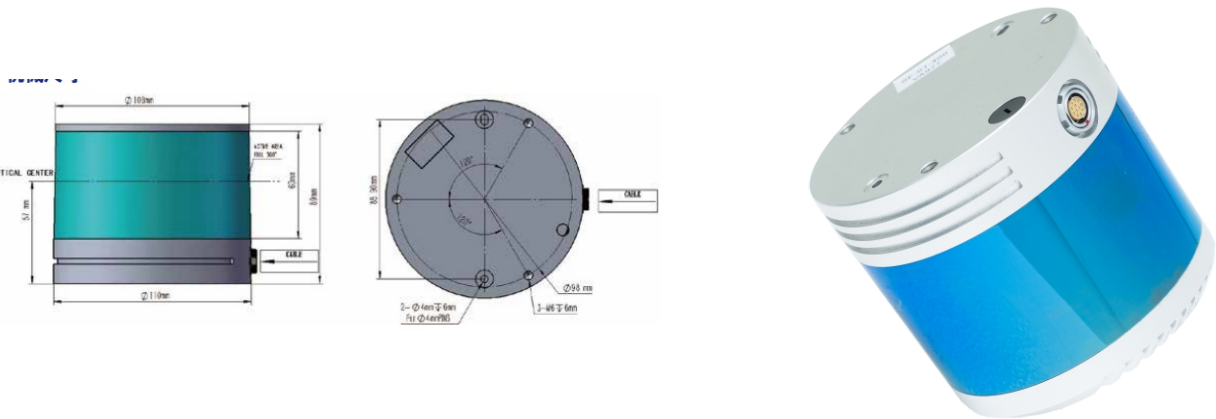
Long-distance identification scenarios: With a maximum identification distance of 50 meters, it is suitable for large-scale scenarios such as large factory areas and warehouses, reducing the deployment of identification equipment and improving management efficiency.



LiDAR (Laser Radar)

Product Overview

The QJ series of LiDAR includes three models: QJ-01-110, QJ-01-200 and QJ-01-400, which are 180-meter, 300-meter and 400-meter class long-range scanning LiDAR respectively. All of them adopt 905nm laser operating wavelength, Class 1 eye-safe design, and have a protection rating of IP67, adapting to various complex industrial and outdoor environments. This series of LiDAR has core advantages of high ranging accuracy, wide field of view angle and stable performance. It can realize 360° omnidirectional real-time scanning, covers applications in multiple fields such as industrial automation, energy, iron and steel, transportation, surveying and mapping, inspection, robots, AGVs, autonomous driving, etc., and provides accurate and efficient distance detection and data collection solutions for different scenarios.



Product Advantages

The QJ series of LiDAR includes three models: QJ-01-110, QJ-01-200 and QJ-01-400, which are 180-meter, 300-meter and 400-meter class long-range scanning LiDAR respectively. All of them adopt 905nm laser operating wavelength, Class 1 eye-safe design, and have a protection rating of IP67, adapting to various complex industrial and outdoor environments. This series of LiDAR has core advantages of high ranging accuracy, wide field of view angle and stable performance. It can realize 360° omnidirectional real-time scanning, covers applications in multiple fields such as industrial automation, energy, iron and steel, transportation, surveying and mapping, inspection, robots, AGVs, autonomous driving, etc., and provides accurate and efficient distance detection and data collection solutions for different scenarios.

Core technical parameters

Parameter Item	QJ-01-110	QJ-01-200	QJ-01-400
Maximum detection range	180m	300m	400m
Detection range at 10% reflectivity	>110m	180m	300m
Detection range at 20% reflectivity	-	250m	400m
Ranging accuracy	±2cm (typical value)	±2cm (typical value)	±2cm (typical value)
Horizontal field of view	360°	360°	360°
Horizontal angular resolution	0.045°~0.18°	0.045°~0.18°	0.09°~0.36°
Rotation rate	5Hz~20Hz	5Hz~20Hz	5Hz~20Hz
Laser safety class	Class 1 eye-safe	Class 1 eye-safe	Class 1 eye-safe
Operating wavelength	905nm	905nm	905nm
Typical power consumption	9W	9W	1.2W
Operating voltage	9~32V DC	9~32V DC	9~32V DC
Product weight	960g	960g	1.2kg (excluding cables)
Structural dimension	Φ110mm(D)×89mm(H)	Φ110mm(D)×89mm(H)	Φ110mm(D)×102mm(H)
Operating ambient temperature	-25°C~+60°C	-25°C~+60°C	-25°C~+60°C
Storage temperature	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C
Point output frequency	40,000 points per second	40,000 points per second	20,000 points per second in single-echo mode
Communication interface	100Mbps Ethernet interface	100Mbps Ethernet interface	100M Ethernet interface
UDP packet output content	Distance, return light intensity, rotation angle Synchronous time stamp	Distance, return light intensity, rotation angle Synchronous time stamp	Distance, rotation angle, reflectivity Synchronous time stamp (supports GPS interface)

Applicable Scenarios

Application scenarios cover multiple fields, accurately matching different long-distance detection requirements: In the field of industrial automation, it can realize equipment positioning and obstacle detection, ensuring efficient and safe production processes; In the energy and steel industries, it can be used for plant inspection and equipment condition monitoring, adapting to harsh industrial environments; In the fields of transportation and autonomous driving, it can realize vehicle ranging and obstacle avoidance, providing accurate environmental perception for autonomous driving; In the field of surveying and mapping, relying on its 400m long-distance detection capability, it can be used for topographic surveying and distance measurement, improving surveying and mapping efficiency; In the inspection field, it adapts to scenarios such as outdoor areas and plant areas, realizing 360° full-area inspection without blind spots; In the field of robotics and AGV, it can provide support for precise positioning and obstacle avoidance, ensuring the stable operation of robots and AGVs. The three models have differentiated positioning: QJ-01-110 is suitable for medium and long distance conventional detection scenarios, QJ-01-200 is suitable for medium and long distance high-precision detection scenarios, and QJ-01-400 is suitable for high-end scenarios such as long-distance surveying and mapping and large-scale inspection, fully meeting the detection and data acquisition needs of different industries.

