

Water & Utilities Hardware Catalog

Water Quality / Level / Flow / Pressure / Leak Detection / Metering / Telemetry

Field instruments with open industrial interfaces for water networks and treatment sites

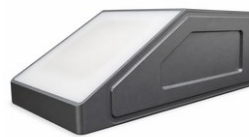
A practical hardware range for treatment plants, distribution networks, reservoirs, channels and remote chambers. The catalog covers water-quality instruments, level, flow and pressure measurement, leak detection, metering and pipeline telemetry.



Submersible turbidity probe



Non-contact radar level transmitter



Radar open-channel flow meter



Submersible hydrostatic level transmitter

Application layer	Hardware range
Water quality	Electrodes, probes, controllers, analysers and monitoring stations
Level and pressure	Submersible, radar and ultrasonic level; compact and process pressure transmitters
Flow	Open-channel radar and Doppler; electromagnetic, ultrasonic and process flow meters
Network assets	Leak detection, smart metering, retrofit readers and battery telemetry terminals

SCOPE

Use the SG code when requesting a quotation. The quotation states the selected range, material, connection, interface and regional radio build. andy@sungeneiot.com | sungeneiot.com

SunGene

Industrial IoT hardware - remote monitoring & data acquisition | andy@sungeneiot.com | sungeneiot.com

Range overview and contents

SunGene Co., Ltd. supplies water and utility field hardware under permanent SG codes. Selection starts with the measurement point, medium, range, interface and installation environment.

Family	Typical hardware	Common interfaces
Water quality	Probes, controllers, analysers and stations	Serial field bus, analogue current loop, relay and Ethernet by product
Level and pressure	Submersible, radar, ultrasonic and process transmitters	Analogue current loop, HART, serial field bus and voltage output by product
Flow	Open-channel and closed-pipe instruments	Serial field bus, pulse, analogue current loop and HART by product
Leak and metering	Spot, rope, smart meters and retrofit readers	Contact, serial field bus, PoE and LPWAN by product
Telemetry	Battery pipeline terminals	Serial interfaces, analogue and digital inputs, MQTT

SELECTION INPUTS

- Measurement point and medium
- Required range and accuracy class
- Wetted material and process connection
- Power, wired interface and radio environment

DELIVERY PATH

- Requirements - define the point list and site conditions
- Shortlist - compare SG-coded model groups
- Evaluation - integrate on the customer's bench or network
- Supply - order by the selected SG code and configuration

How the hardware fits your platform

Wired instruments connect through RS-485 Modbus, 4-20 mA, HART, pulse or contact signals. Radio instruments and telemetry terminals carry remote readings toward the customer's SCADA, historian or MQTT broker.

FIELD INSTRUMENTS

- Water quality, level, pressure and flow
- Leak and immersion detection
- Meters and retrofit reading nodes

CONNECT

- Controllers and analysers
- Battery pipeline telemetry terminals
- Integral cellular or LPWAN radio by product

CUSTOMER PLATFORM

- SCADA and historian
- MQTT broker or network server
- Alarm and work-order handling

NOTE

This catalog covers field instruments and pipeline telemetry terminals. General-purpose gateways and network servers are listed in the Connectivity Catalog.

Water-quality electrodes and probes

Electrodes and probes for direct measurement in tanks, pipes, channels and monitoring cells. Codes are grouped by measurement function; body material, range and output remain model-selection fields.

			
Optical dissolved-oxygen probe	Optical turbidity probe with sapphire window	pH probe with temperature compensation	UV-absorbance COD probe

MODEL SELECTION - use the SG code in your enquiry

SG code	Product group	Selection focus
SG-WQE-101 / SG-WQE-102 / SG-WQE-103 / SG-WQE-105	Submersible DO, ORP, turbidity and pH probes	Parameter, range, cleaning option and output
SG-WQE-106 / SG-WQE-107 / SG-WQE-108 / SG-WQE-109	Conductivity, ammonium, COD and residual-chlorine probes	Medium, range, body material and maintenance method
SG-WQE-104	Multi-parameter sonde	Parameter set, body material and cable length
SG-WQE-110 / SG-WQE-111 / SG-WQE-112 / SG-WQE-115 / SG-WQE-118 / SG-WQE-124 / SG-WQE-127 / SG-WQE-128	Digital electrode family	Parameter, controller compatibility and measuring range
SG-WQE-113 / SG-WQE-114 / SG-WQE-119 / SG-WQE-120 / SG-WQE-121 / SG-WQE-122 / SG-WQE-123	pH electrode bodies	Housing, temperature compensation and process connection
SG-WQE-116 / SG-WQE-117 / SG-WQE-125 / SG-WQE-126	ORP and conductivity electrode bodies	Electrode material, cell constant and process connection

KEY FEATURES

- Analogue and digital product groups for new and retrofit panels
- Submersible and controller-mounted electrode formats
- Cleaning and anti-fouling options on selected probe bodies

APPLICATIONS

- Treatment process monitoring
- Distribution-network quality points
- Surface water and industrial wastewater

Water-quality controllers, analysers and monitoring stations

Controllers and analysers form the panel layer above the probes. The range includes single-parameter controllers, universal digital-electrode controllers, reagent analysers and packaged monitoring stations.

			
Multi-parameter water-quality monitoring station	Universal water-quality controller with digital electrode recognition	Reagent wet-chemistry oxygen-demand analyser	Wireless multi-probe water-quality transmitter

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION - use the SG code in your enquiry

SG code	Product group	Selection focus
SG-WQA-104 / SG-WQA-105	Single-parameter controllers	Conductivity or pH / ORP input, display and transmitter output
SG-WQA-106 / SG-WQA-107	Universal water-quality controllers	Accepted electrode family, display, relays and digital interface
SG-WQA-108 / SG-WQA-109 / SG-WQA-110 / SG-WQA-111 / SG-WQA-112	Reagent analysers	Analyte, measuring range, sample handling and communication
SG-WQA-113 / SG-WQA-114 / SG-WQA-115 / SG-WQA-116 / SG-WQA-117	Monitoring stations and packaged analysers	Parameter set, cabinet format, sample flow and display
SG-WQA-101	Wireless multi-probe transmitter	Probe count, power arrangement and radio build

KEY FEATURES

- Controller, analyser and packaged-station formats
- RS-485 and analogue transmitter options by product
- Relay and sample-handling functions on selected instruments

APPLICATIONS

- Drinking-water treatment
- Wastewater discharge monitoring
- Remote quality stations

Submersible and hydrostatic level transmitters

Hydrostatic level instruments for wells, reservoirs, wet wells and process vessels. Select by measuring span, housing format, output, wetted material and installation method.

			
Submersible transmitter with vented compensation cable	Deep-well submersible level transmitter	Battery cellular submersible level node	Hydrostatic level transmitter, field housing

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION - use the SG code in your enquiry

SG code	Product group	Selection focus
SG-SLT-101 / SG-SLT-103 / SG-SLT-104 / SG-SLT-105 / SG-SLT-107 / SG-SLT-110 / SG-SLT-117 / SG-SLT-123	Submersible level transmitters	Span, probe diameter, cable, output and power
SG-SLT-102 / SG-SLT-106 / SG-SLT-108 / SG-SLT-109 / SG-SLT-118 / SG-SLT-119 / SG-SLT-120 / SG-SLT-121	Flanged, display and process hydrostatic transmitters	Pressure range, diaphragm material, mounting and HART option
SG-SLT-111 / SG-SLT-112 / SG-SLT-114	Cellular level nodes	Range, battery, antenna and chamber installation
SG-SLT-113 / SG-SLT-115	LoRa / LoRaWAN level nodes	Range, battery, enclosure and network profile
SG-SLT-116	Wired isolated serial-bus submersible	Span, supply and bus layout
SG-SLT-122	Anti-fouling probe cover	Probe fit and solids-loading duty

KEY FEATURES

- Submersible, flanged and display formats
- Wired and battery-radio choices
- Multiple probe diameters and wetted-material options

APPLICATIONS

- Boreholes and reservoirs
- Pump stations and wet wells
- Buried chambers and process vessels

Radar and ultrasonic non-contact level transmitters

Non-contact level instruments mount above the medium for tanks, channels and chambers. Radar and ultrasonic groups cover different range, accuracy, temperature and mounting requirements.



26 GHz pulse radar level transmitter with local display



76-81 GHz FMCW radar level transmitter, bracket mount



Compact FMCW radar water-level sensor



Configurable ultrasonic level transmitter

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION - use the SG code in your enquiry

SG code	Product group	Selection focus
SG-RLT-101 / SG-RLT-102 / SG-RLT-103	Radar level transmitters	Frequency class, range, blind zone, accuracy and output
SG-RLT-104 / SG-RLT-105	Additional radar configurations	Liquid or solids duty, range and process interface
SG-ULT-102 / SG-ULT-103 / SG-ULT-104	Wired ultrasonic level transmitters	Range, transducer format, relay and analogue / digital output
SG-ULT-101	Wireless ultrasonic depth node	Depth range, power arrangement and radio build

KEY FEATURES

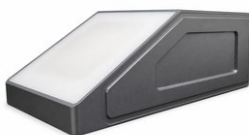
- No wetted sensing element
- Integrated and remote-transducer formats
- Radar and ultrasonic choices for different chamber conditions

APPLICATIONS

- Reservoirs and clear wells
- Chemical and process tanks
- Channels and remote chambers

Open-channel and surface-velocity flow meters

Open-channel instruments combine velocity and level to calculate discharge in rivers, canals, culverts and treatment channels. Select submerged or non-contact geometry to match the hydraulic condition.

			
Radar surface-velocity sensor	Combined radar level and velocity flow meter	Submerged Doppler area-velocity sensor	Bi-directional submerged Doppler sensor

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION - use the SG code in your enquiry

SG code	Product group	Selection focus
SG-OCF-101 / SG-OCF-102	Submerged Doppler area-velocity meters	Velocity direction, level span and mounting
SG-OCF-103	Dual-radar level and velocity meter	Ranging geometry, velocity range and interface
SG-OCF-104	Radar surface-velocity sensor	Standoff distance, angle correction and power
SG-OCF-105 / SG-OCF-106	Combined radar flow meters	Channel geometry, level / velocity range and discharge calculation

KEY FEATURES

- Submerged and non-contact measurement
- RS-485 instrument groups
- Options for regular and irregular channel sections

APPLICATIONS

- River and canal gauging
- Storm and sewer overflow monitoring
- Treatment-works channels

Pressure and differential-pressure transmitters

Pressure transmitters for distribution mains, pump stations, process skids and remote chambers. The SG range covers compact, process, differential, display and battery-radio formats.



Compact diffusion-silicon pressure transmitter

Monocrystalline-silicon process pressure transmitter

Differential pressure transmitter

Display pressure transmitter

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION - use the SG code in your enquiry

SG code	Product group	Selection focus
SG-PRS-129 / SG-PRS-130 / SG-PRS-131 / SG-PRS-132 / SG-PRS-133 / SG-PRS-134 / SG-PRS-135 / SG-PRS-136	Compact pressure transmitters	Pressure type, range, output and process connection
SG-PRS-137 / SG-PRS-138 / SG-PRS-139 / SG-PRS-140 / SG-PRS-141	High-pressure, clamp and differential transmitters	Range, connection, output and media
SG-PRS-153 / SG-PRS-154 / SG-PRS-155 / SG-PRS-156	Process pressure and differential-pressure transmitters	Accuracy class, HART option and diaphragm / connection
SG-PRS-157 / SG-PRS-158 / SG-PRS-159 / SG-PRS-160	Battery radio pressure transmitters	Fixed or selectable range, battery and radio profile
SG-PRS-161 / SG-PRS-162	Submersible battery pressure transmitters	Range, antenna, enclosure and chamber duty
SG-PRS-173 / SG-PRS-174	Display and connector-format pressure transmitters	Display, range, output and connector body

KEY FEATURES

- Compact, process and differential formats
- Analogue, HART, RS-485 and radio options
- Fixed and configurable connection choices

APPLICATIONS

- Distribution mains and DMA points
- Pump and process pressure
- Remote and flooded chambers

Closed-pipe flow meters

Closed-pipe flow measurement for conductive water, clean liquids and process services. The range includes inline, clamp-on, insertion, portable and variable-area formats.

			
Integrated electromagnetic flow meter	Compact electromagnetic flow meter	Fixed inline ultrasonic flow meter	Portable ultrasonic flow meter

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION - use the SG code in your enquiry

SG code	Product group	Selection focus
SG-EMF-102 / SG-EMF-103 / SG-EMF-110 / SG-EMF-111	Electromagnetic flow meters	Bore, liner, electrode, converter format and output
SG-USF-101 / SG-USF-103	Clamp-on ultrasonic transducer sets	Pipe diameter, temperature class and mounting
SG-USF-104 / SG-USF-105 / SG-USF-108	Fixed ultrasonic flow meters	Clamp-on, insertion or spool-piece sensor format
SG-USF-106 / SG-USF-113	Portable ultrasonic flow meters	Pipe range, logger, battery and transducer set
SG-FLW-102 / SG-FLW-103	Vortex and turbine flow meters	Medium, flow range, pressure and output
SG-VAF-101 / SG-VAF-103	Variable-area flow meters	Bore, body material, pressure, temperature and transmitter option

KEY FEATURES

- Inline and non-invasive formats
- Permanent and survey instruments
- Analogue, pulse and digital outputs by product

APPLICATIONS

- Bulk transfer and distribution
- Plant process flow
- Temporary survey and comparison measurement

Water leak and immersion detection

Spot, rope and immersion detection for chambers, plant rooms, cable routes and cabinets. Wired, PoE and battery-radio formats support different site power and network conditions.

MODEL SELECTION - use the SG code in your enquiry

SG code	Product group	Selection focus
SG-LEAK-101 / SG-LEAK-102	LoRaWAN spot leak detectors	Probe geometry, battery and reporting interval
SG-LEAK-105 / SG-LEAK-106	Field leak and rope detector systems	Probe / rope input, logger and radio build
SG-LEAK-109 / SG-LEAK-112 / SG-LEAK-113 / SG-LEAK-114 / SG-LEAK-116 / SG-LEAK-119	Wireless spot and immersion detectors	Enclosure, probe lead and battery format
SG-LEAK-110 / SG-LEAK-117 / SG-LEAK-120	Wireless sensing-rope detectors	Rope length, extension and battery format
SG-LEAK-121 / SG-LEAK-122	PoE leak detectors	Spot or rope sensor and Ethernet power
SG-LEAK-123 / SG-LEAK-124 / SG-LEAK-125	Wired serial-bus, contact and rope detectors	Supply, bus or contact output and coverage geometry

KEY FEATURES

- Spot and continuous-area sensing
- Wired, PoE and battery-radio choices
- Chamber, cabinet and cable-route formats

APPLICATIONS

- Pump rooms and wet wells
- Cable galleries and equipment rooms
- Street cabinets and kiosks

Smart water meters and automatic meter reading retrofit

Smart meter bodies and retrofit readers bring consumption data from new and installed meters. Select the SG code by meter body, reading method, valve requirement and radio environment.



Dry-dial multi-jet meter with remote shut-off valve



Prepayment dry-dial meter with wireless register



Optical dial-reading retrofit node



Dry-contact pulse retrofit node

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION - use the SG code in your enquiry

SG code	Product group	Selection focus
SG-WM-101 / SG-WM-102	Dry-dial smart water meters	Nominal bore, register type, valve and local interface
SG-DAQ-110	Optical dial-reading retrofit node	Dial geometry, image capture and radio build
SG-DAQ-111	Pulse-input retrofit node	Contact / pulse type, logging and radio build

KEY FEATURES

- New-meter and retrofit paths
- Valve and prepayment options by meter body
- Optical or pulse capture for installed meters

APPLICATIONS

- Customer metering
- District and sub-metering
- Retrofit automatic meter reading

Battery pipeline telemetry terminals

Battery pipeline telemetry terminals connect serial, analogue and digital field signals at remote chambers and publish readings toward the customer's data platform.



Battery pipeline telemetry terminal

Battery pipeline telemetry terminal with GNSS

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION - use the SG code in your enquiry

SG code	Product group	Selection focus
SG-RTU-158	Battery pipeline telemetry terminal	Serial and analogue / digital input mix, storage, battery and LTE profile
SG-RTU-159	Battery pipeline telemetry terminal with positioning	The same field I/O class with an added positioning function

KEY FEATURES

- Serial, analogue and digital field inputs
- Local buffering for remote sites
- MQTT transport over cellular

APPLICATIONS

- Buried distribution chambers
- Boreholes and remote reservoirs
- Pipeline monitoring points

NOTE

Select enclosure and mounting from the chamber flooding risk, access and antenna position.

Interface and selection guide

Use the product-family page first, then narrow the SG code by field interface, power source and data path.

Family	Common choices	Key selection field
Water quality	Electrode, probe, controller, analyser or station	Parameter, range, sample method and output
Level	Submersible, radar or ultrasonic	Range, blind zone, wetted material and mounting
Open-channel flow	Submerged Doppler or radar	Hydraulic section, velocity direction and standoff
Pressure	Compact, process, differential or radio	Range, media, connection, output and power
Closed-pipe flow	Electromagnetic, ultrasonic, vortex, turbine or variable-area	Pipe, medium, temperature, pressure and output
Leak and metering	Spot, rope, smart meter or retrofit reader	Coverage geometry, power and data interface
Telemetry	Battery pipeline terminal	I/O count, reporting interval, storage and radio profile

WIRED

- RS-485 Modbus
- 4-20 mA and voltage output
- HART, pulse, contact, RS-232 or Ethernet by product

RADIO

- Cellular, LoRa or LoRaWAN by product
- Regional hardware profile stated in the quotation
- Network server remains part of the customer's platform

Where this hardware goes

The same hardware families cover treatment, distribution, storage, drainage and customer metering. Select by measurement point and site condition before choosing the interface.

Network point	Recommended family	Selection priority
Borehole, reservoir and clear well	Submersible or non-contact level, telemetry	Range, cable / standoff and power
Treatment inlet and process	Water quality, flow and pressure	Medium, sample method and control interface
Final water and discharge	Water quality and open-channel flow	Parameter set and discharge geometry
Trunk main and bulk transfer	Electromagnetic or ultrasonic flow, pressure	Bore, liner, pressure and output
Distribution and DMA	Smart metering, pressure and telemetry	Meter body, reporting method and chamber power
Pump station and wet well	Level, pressure and leak detection	Flooding risk, access and field bus
River, canal and overflow	Radar or Doppler flow and level	Section geometry, velocity direction and standoff
Customer premises	Smart meter or retrofit reader	Existing meter, valve and radio environment

DESIGN NOTES

- Use non-contact instruments where fouling or access is the dominant risk
- Use a wired bus where chamber power and cabling already exist
- Size battery systems from the real acquisition and upload interval

APPLICATIONS

- Municipal drinking-water abstraction, treatment and distribution
- Wastewater collection, treatment and discharge compliance
- River, canal and flood-warning hydrometry
- Irrigation districts and canal delivery measurement
- Industrial site water, effluent and cooling-water monitoring
- Utility metering and automatic meter reading programmes

How we work with you

Start with the measurement point and site conditions. The shortlist then uses permanent SG codes so the selected hardware remains traceable through quotation and repeat order.

SEQUENCE

- Requirements - point list, medium, environment and existing network
- Shortlist - SG-coded product groups and configuration fields
- Evaluation - bench or site integration on the customer's platform
- Supply - order against the selected SG code and quoted configuration

DOCUMENT SET

- Model parameter table where held
- Register map or payload description where applicable
- Wiring and configuration information for the selected hardware

SPECIFICATION DISCIPLINE

- No supplier identity or factory model appears in the customer catalog
- Unresolved ratings and compliance claims are omitted
- Battery service interval depends on coverage, temperature and reporting cadence

NOTE

Send the point list, medium, range, existing interface and site power condition to andy@sungeneiot.com.