

Agriculture & Weather Hardware

Weather sensing, field data acquisition and irrigation monitoring

SG-coded hardware for clear field model selection.

Weather stations, environmental sensors, soil probes, data acquisition and irrigation monitoring in one model-selection catalog.



SG-WS-110: All-in-one weather station



SG-SOIL-121: Soil moisture, temperature & EC probe



SG-RG-102: Tipping-bucket rain gauge



SG-WND-110: Combined wind speed & direction sensor

Representative family visual; exact housing may vary by configuration.

PRODUCT AREA	CATALOG COVERAGE
Weather	Stations, wind and precipitation
Soil and crop	Root-zone and crop parameters
Radiation and ambient	Solar, light and climate measurements
Field operation	Data acquisition, telemetry and irrigation monitoring

SCOPE

Model-selection catalog. Use only the data printed on the selected SG-code row.

SunGene

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Product families and page guide

Use this page to move from the required measurement to the relevant SG-code model tables.

PRODUCT FAMILY	PAGES	PRODUCT FAMILY	PAGES
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NOTE

Selection guide: page 2 | System architecture: page 3 | Interface, application and ordering guides follow the model tables.

One SG code, one product record

Each row is model-specific. Do not combine a range from one SG code with the interface or enclosure of another.

STEP	SELECTION INPUT	RESULT
1	Measured parameter and range	Product family
2	Mounting and environment	Mechanical form
3	Host input and network	Electrical interface
4	Quantity and destination	Order configuration

READ THE ROW

- Keep values with their SG code
- Use only printed interfaces
- Treat source-limited fields as non-numeric selection boundaries

CATALOG MAP

- Weather
- Soil and crop
- Radiation and ambient
- Field operation

From measurement point to customer software

Build the data path only from compatible interfaces printed in the model tables.

LAYER	ROLE	COMMON INTERFACES
Field sensor	Measures weather, soil, radiation or water conditions	RS-485, SDI-12, pulse or analogue
Data acquisition	Logs values and converts field protocols	RS-232, RS-485 or Ethernet
Backhaul	Transfers records from the site	LoRaWAN, LTE, NB-IoT or LTE-M where listed
Customer software	Stores, displays and analyses data	MQTT, HTTP or Modbus where listed

ELECTRICAL MATCH
• Signal • Supply • Isolation • Input capacity

SITE MATCH
• Mounting • Cable • Environment • Coverage

All-in-one weather stations (1/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-WS-110: 7-in-1 all-in-one weather station

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Configuration	Notes
SG-WS-110	7-in-1: temperature, humidity, pressure, light, rainfall, wind speed & direction	Ultrasonic wind, optical rain, built-in heater and electronic compass
SG-WS-162	Ultrasonic all-in-one with radar precipitation	Adds radiation, illuminance, particulate, noise, visibility; GNSS & compass option
SG-WS-163	Ultrasonic all-in-one station	Wind 0-40 m/s, temperature -40 to +80 C, humidity, pressure 300-1100 hPa, rainfall 0-200 mm/h, irradiance 0-2000 W/m ² , illuminance 0-200000 lux, particulate; RS-485 / RS-232 / SDI-12; 1.7 W
SG-WS-164	Ultrasonic all-in-one station	Wind 0-70 m/s, temperature -40 to +80 C, humidity, pressure 300-1100 hPa, rainfall 0-200 mm/h, plus radiation, illuminance, particulate, visibility and noise; RS-485 / RS-232 / SDI-12; 1.7 W
SG-WS-161	Photovoltaic-plant environmental station	Supplied as a unit set: logger, gateway, radiation shield, cabinet, solar supply, mast
SG-WS-166	Ultrasonic all-in-one station	Not quote-ready: sensor set, ranges, accuracy, interfaces, enclosure and power must be confirmed for the exact configuration.

All-in-one weather stations (2/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-WS-120: 7-in-1 ultrasonic station head

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Configuration	Notes
SG-WS-167	Mini ultrasonic all-in-one weather sensor	Not quote-ready: sensor set, ranges, accuracy, interfaces, enclosure and power must be confirmed for the exact configuration.
SG-WS-111	10-in-1 ultrasonic: wind, temperature, humidity, pressure, rainfall, particulate, noise, radiation or illuminance	12-24 V DC, RS-485
SG-WS-123	9-in-1 ultrasonic: wind, temperature, humidity, pressure, rainfall, particulate, radiation or illuminance	12-24 V DC, RS-485
SG-WS-122	8-in-1 ultrasonic: wind, temperature, humidity, pressure, particulate, noise 30-130 dB	12-24 V DC, RS-485
SG-WS-120	7-in-1 ultrasonic: wind, temperature, humidity, pressure, rainfall, radiation 0-1500 W/m2	12-24 V DC, RS-485
SG-WS-121	7-in-1 ultrasonic: wind, temperature, humidity, pressure, rainfall, illuminance 0-200000 lux	12 V DC, RS-485, ABS, IP65

All-in-one weather stations (3/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.

MODEL SELECTION

SG code	Configuration	Notes
SG-WS-118	6-in-1 ultrasonic: wind, temperature, humidity, pressure, rainfall	12-24 V DC, RS-485, IP65
SG-WS-116	5-in-1 ultrasonic: wind 0-60 m/s, temperature, humidity, pressure	12-24 V DC, RS-485
SG-WS-117	5-in-1 ultrasonic: wind 0-40 m/s, temperature -50 to 100 C, humidity, pressure	12-24 V DC, RS-485, IP65
SG-WS-108	Station kit: wind, temperature, humidity, pressure, illuminance, particulate, noise	RS-485 for third-party heads, pulse counting, external 12 V with 1000 mAh lithium backup
SG-WS-109	Solar-powered station kit with external 3-in-1 temperature / humidity / pressure head	Optional rain and illuminance heads; IP66; solar with 3000 mAh lithium
SG-WS-165	RS-485 multi-parameter weather sensor	Not quote-ready: sensor set, ranges, accuracy, interfaces, enclosure and power must be confirmed for the exact configuration.

Wind speed and direction sensors (1/4)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-WND-103: Die-cast cup anemometer

MODEL SELECTION

SG code	Type	Notes
SG-WND-102	Cup anemometer, wind speed	0-30 / 0-50 / 0-60 m/s, pulse / 4-20 mA / RS-485 / voltage, 420 g
SG-WND-103	Die-cast cup anemometer, wind speed	Starting threshold 0.2 m/s, 20 mA at 12 V DC, M12 connector, 410 g
SG-WND-104	Cup anemometer, wind speed 0-45 m/s	ABS construction
SG-WND-105	Duct and pipe air-velocity sensor	In-duct mounting
SG-WND-106	Cup anemometer, wind speed	Alternative body and output arrangement
SG-WND-107	Wind direction vane	Alternative body and output arrangement

Wind speed and direction sensors (2/4)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-WND-108: Wind direction vane

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Type	Notes
SG-WND-108	Wind direction vane	0-360 deg +/-3 deg, starting threshold 0.5 m/s, 304 stainless vane, 440 g
SG-WND-109	Wind direction vane	ABS construction
SG-WND-110	Combined cup-and-vane wind speed & direction	0-45 m/s analogue / 0-70 m/s pulse & digital, 75 m/s survival, 1200 g with bracket, 2.5 m cable
SG-WND-111	Ultrasonic wind speed & direction	No moving parts, probe heating, barometric option, RS-485 Modbus-RTU or NMEA output
SG-WND-112	Anemometer with local wind-speed display	Display and controller head
SG-WS-112	2-in-1 ultrasonic wind speed & direction	0-60 m/s +/- (0.5 + 3%), 0-360 deg +/-3 deg, 12-24 V DC, RS-485

Wind speed and direction sensors (3/4)

Model-specific selection data. Use only the values printed on the selected SG-code row.

MODEL SELECTION

SG code	Type	Notes
SG-WS-113	2-in-1 ultrasonic wind speed & direction	0-40 m/s, resolution 0.01 m/s, 12 V DC, RS-485, IP65, 0.2 W
SG-WS-114	3D ultrasonic anemometer	Three-axis wind, horizontal and vertical direction, XYZ vectors, 9-24 V DC, RS-485 Modbus, 2 W, -40 to 80 C, IP66
SG-WS-128	Wind direction vane	0-360 deg, resolution 1 deg, +/-3 deg, starting at or below 0.5 m/s, 4-20 mA / RS-485 / 0-5 V, IP65
SG-WS-149	Carbon-fibre three-cup anemometer	0-70 m/s, +/- (0.3 + 0.03V) m/s, starting at or below 0.5 m/s, 4-20 mA / RS-485 / 0-5 V, IP65
SG-WS-155	Integrated wind speed & direction	0-45 / 0-70 m/s, 0-360 deg +/-3 deg, metal housing with carbon-fibre vane, 4-20 mA / RS-485, IP45
SG-WND-115	Wind speed sensor	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.

Wind speed and direction sensors (4/4)

Model-specific selection data. Use only the values printed on the selected SG-code row.

MODEL SELECTION

SG code	Type	Notes
SG-WND-116	Cup anemometer, wind speed	0-70 m/s, +/-0.3 m/s or +/-0.5% FS, resolution 0.1 m/s, 12-24 V DC, RS-485 Modbus-RTU, -35 to 60 C, IP64, UV-resistant ABS, 180 mm three-cup rotor
SG-WND-117	Ultrasonic wind speed & direction sensor	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.
SG-WND-118	Wind speed sensor	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.
SG-WND-119	Wind direction sensor	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.
SG-WND-120	Heated integrated wind speed & direction	Heating supply 12-24 V DC, average 15 W and peak 18 W, IP65, Modbus-RTU 9600 8N1
SG-WND-101	Two-in-one wind speed & direction	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.

Rainfall and precipitation sensors (1/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-RG-102: Tipping-bucket rain gauge, 0.2 mm resolution

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Type	Notes
SG-RG-102	Tipping-bucket, 0.2 mm resolution	200 mm stainless collector, reed pulse or RS-485, removable filter, 3.5 kg
SG-RG-104	Tipping-bucket, 0.5 mm resolution	200 mm stainless collector, reed pulse or RS-485, optional heating
SG-RG-109	Tipping-bucket, 0.2 mm resolution, ABS	Allowable 8 mm/min, pulse 30 V DC / 5 mA or RS-485, 0-60 C, IP66, 2 kg
SG-RG-111	Tipping-bucket, 0.2 or 0.5 mm resolution	Voltage, 4-20 mA, RS-485 or pulse; 5-24 V DC or 12-24 V DC; optional heating to -40 C
SG-RG-105	Radar precipitation sensor	Rain, snow and hail discrimination; no moving parts; no heater needed
SG-RG-103	Rain and snow presence detector	Capacitive; relay NO, 4-20 mA, RS-485, voltage or NPN; automatic heating 10 W max; IP67; 90 x 58 x 37 mm

Rainfall and precipitation sensors (2/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.

MODEL SELECTION

SG code	Type	Notes
SG-RG-101	Tipping-bucket with RS-485 output	Modbus-RTU field gauge
SG-RG-112	Siphon self-recording gauge	200 mm aperture, 0.1-10 mm range, error +/-0.05 mm, mechanical clock 26 h per rotation
SG-WS-124	Tipping-bucket, ABS, 120 mm aperture	Resolution 0.2 mm, +/-4%, 5 or 12-24 V DC, reed or RS-485
SG-WS-127	Dual tipping-bucket, 200 mm aperture	Resolution 0.1 mm, +/-4%, 5 or 12-24 V DC, reed or RS-485
SG-WS-141	Piezoelectric rainfall sensor	0-8 mm/min, resolution 0.01 mm, +/-4% on daily accumulation, 12-24 V DC, RS-485, IP66
SG-WS-142	Tipping-bucket, stainless steel, 200 mm aperture	0-4 mm/min, resolution 0.2 mm, +/-4%, 5 or 12-24 V DC, reed or RS-485

Rainfall and precipitation sensors (3/3)

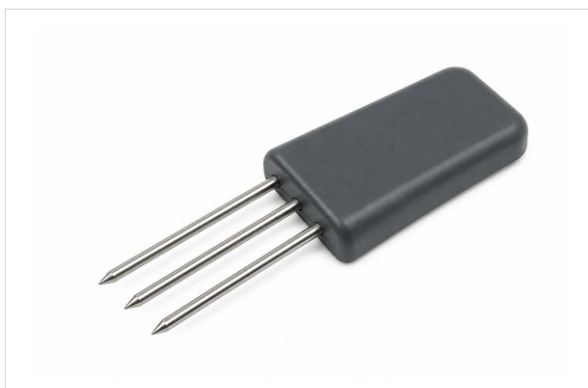
Model-specific selection data. Use only the values printed on the selected SG-code row.

MODEL SELECTION

SG code	Type	Notes
SG-WS-143	Rain and snow presence detector	Switch output NO / NC, contact 5 A at 250 V AC or 30 V DC, -40 to 80 C, 1.5 W
SG-RG-106	Waterproof RS-485 rain gauge	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.
SG-RG-107	Tipping-bucket rain gauge	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.
SG-RG-108	Rainfall sensor	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.
SG-RG-110	Tipping-bucket rain gauge	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.

Soil and crop parameter sensors (1/5)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-SOIL-120: Soil moisture & temperature probe

MODEL SELECTION

SG code	Parameters	Notes
SG-SOIL-120	Moisture + temperature	FDR, +/-3% moisture, +/-0.5 C, 4-20 mA / 0-5 V / 0-2 V / RS-485, IP68
SG-SOIL-121	Moisture + temperature + EC	+/-2% moisture, EC to 20000 uS/cm, RS-485 Modbus or SDI-12, saline-alkali capable, IP68
SG-SOIL-118	Moisture + temperature + EC + pH (4-in-1)	Single-probe transmitter
SG-SOIL-110	Moisture + temperature + EC (3-in-1)	EC 0-10000 uS/cm +/-5%, 5-24 V DC, RS-485 Modbus, IP68
SG-SOIL-113	Moisture + temperature + EC + salinity (4-in-1)	Salinity 0-8000 mg/L, 12-24 V DC, RS-485 Modbus, IP68
SG-SOIL-111	Moisture + temperature + EC + NPK + pH (7-in-1)	NPK 0-2000 mg/kg, pH 3-10, 5-24 V DC, RS-485, IP68

Soil and crop parameter sensors (2/5)

Model-specific selection data. Use only the values printed on the selected SG-code row.

MODEL SELECTION

SG code	Parameters	Notes
SG-SOIL-112	Moisture + temperature + EC + NPK + pH + salinity (8-in-1)	Salinity 0-5500 mg/L, 5-24 V DC, RS-485, IP68
SG-SOIL-105	Nitrogen, phosphorus, potassium	0-2000 mg/kg per element +/-2%, RS-485, IP68, black epoxy encapsulation
SG-SOIL-106	Soil pH	0-14 pH +/-0.1, resolution 0.01 pH, 12-24 V DC, 4-20 mA or RS-485, IP68
SG-SOIL-129	Salinity + electrical conductivity	Salinity 0-8000 mg/L, EC 0-15 mS/cm, both +/-5%, 12-24 V DC, 0-5 V / 4-20 mA / RS-485
SG-SOIL-127	Temperature + moisture + salinity	Temperature -40 to 80 C, moisture 0-100%, salinity 0-8000 mg/L, 5-24 V DC, RS-485, IP68
SG-SOIL-125	Multi-depth profile probe	Nodes at 10, 20, 30 and 40 cm; +/-3% laboratory and +/-5% field; 63 mm diameter, about 1000 mm long; IP67 above ground, IP68 below

Soil and crop parameter sensors (3/5)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-SOIL-114: Multi-depth soil profile probe

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Parameters	Notes
SG-SOIL-126	Multi-depth profile probe	Standard nodes at 10, 20, 30 and 40 cm with up to 10 customisable layers; 63 mm diameter, about 1000 mm long; IP67 above ground, IP68 below
SG-SOIL-115	Multi-depth tube probe, six layers	10 to 60 cm temperature and moisture, 12-24 V DC, RS-485 Modbus, IP67 above ground and IP68 below
SG-SOIL-114	Multi-depth tube probe, four layers	Temperature and moisture at 10, 20, 30 and 40 cm, 12-24 V DC, RS-485 Modbus, IP67 above ground and IP68 below
SG-SOIL-128	Soil heat flux plate	-200 to +200 W/m ² , internal resistance under 300 ohm, accuracy under 5%, 4-20 mA / 0-2 V / RS-485, burial 3-10 cm
SG-SOIL-119	Soil water potential	-10 to -500 kPa and -100 to -10 kPa ranges, 500-1000 mV or RS-485, 5 V DC or 5-30 V DC
SG-SOIL-107	Soil tension	-100 kPa to 0, +/-0.5 kPa, resolution 0.1 kPa, 60 cm depth, 10-24 V DC, RS-485 Modbus, IP67

Soil and crop parameter sensors (4/5)

Model-specific selection data. Use only the values printed on the selected SG-code row.

MODEL SELECTION

SG code	Parameters	Notes
SG-SOIL-108	Disc-type moisture + temperature	-50 to 100 C +/-0.5 C, moisture 0-100% +/-3%, 12-24 V DC, RS-485 or 4-20 mA, IP68
SG-SOIL-109	Moisture + temperature	-40 to 80 C +/-0.5 C, moisture 0-100% +/-5%, 5-24 V DC, RS-485, IP68
SG-SOIL-117	Leaf temperature and humidity	-40 to 80 C +/-0.5 C, 0-100% +/-5%, 12-24 V DC, RS-485, IP65
SG-SOIL-116	Fruit growth sensor	0-50 / 100 / 150 / 250 mm, +/-1%, 12-24 V DC, RS-485 / 4-20 mA / 0-5 V, IP65
SG-SOIL-104	Handheld multi-parameter soil meter	Temperature, moisture, salinity, EC and pH; 4000 mAh lithium; USB; 20000-record memory
SG-SOIL-101	Moisture + temperature + EC	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.

Soil and crop parameter sensors (5/5)

Model-specific selection data. Use only the values printed on the selected SG-code row.

MODEL SELECTION

SG code	Parameters	Notes
SG-SOIL-102	Moisture + temperature + EC, radio node	Radio-connected soil probe
SG-WS-101	Multi-segment soil moisture and temperature converter	Plug-and-play multi-depth probe interface, IP66, 8500 mAh lithium
SG-WS-102	Leaf wetness node	Leaf moisture and leaf temperature; -40 to 85 C; GNSS on -CB/-CS variants; BLE and OTA; solar powered with 8500 mAh battery.
SG-WS-104	Soil moisture + temperature + EC node	Two external probes with 2.5 m leads; soil moisture, temperature and EC; IP66; GNSS on -CB/-CS variants; BLE 5.1 and OTA; solar powered with 8500 mAh battery.
SG-WS-105	Soil multi-parameter node	Up to four probes with 3.5 m leads; soil moisture, temperature and EC; IP66; -40 to 85 C; GNSS on -CB/-CS variants; solar powered with 8500 mAh battery.
SG-WS-106	Soil pH node	Soil pH with temperature compensation plus soil temperature; user calibration; -40 to 85 C; GNSS on -CB/-CS variants; solar powered with 8500 mAh battery.

Solar radiation, PAR and light sensors (1/2)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-SRD-113: PAR quantum sensor

MODEL SELECTION

SG code	Type	Notes
SG-SRD-113	PAR quantum sensor	400-700 nm or 350-1100 nm, 0-2500 $\mu\text{mol}/\text{m}^2/\text{s}$, 0-2000 mV / 4-20 mA / RS-485
SG-SRD-110	Total solar radiation sensor	0-4000 W/m ² ; 280-3000 nm
SG-SRD-114	Pyranometer	RS-485 Modbus-RTU
SG-SRD-115	Solar radiation sensor	RS-485 Modbus-RTU
SG-SRD-116	Long-wave radiometer	3500 to 50000 nm; 0-2000 W/m ²
SG-SRD-117	Albedometer	-2000 to +2000 W/m ² , up-and-down facing pair, RS-485, IP65

Solar radiation, PAR and light sensors (2/2)

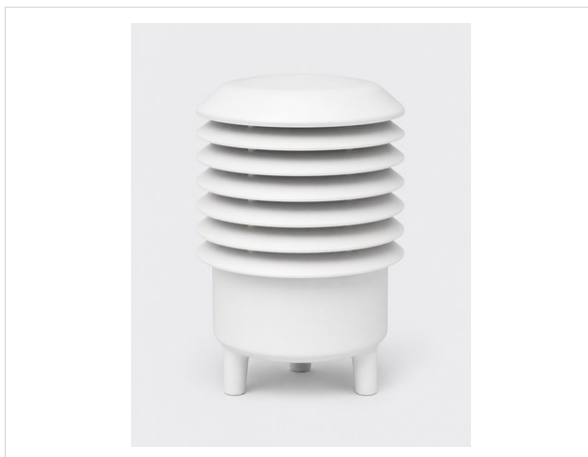
Model-specific selection data. Use only the values printed on the selected SG-code row.

MODEL SELECTION

SG code	Type	Notes
SG-WS-137	PAR sensor	400-700 nm, 0-2000 W/m ² , 12-24 V DC, RS-485, sensitivity 5-50 uV per umol/s
SG-WS-133	Illuminance sensor	0-200000 lux, 380-730 nm, +/-7%, 4-20 mA or RS-485
SG-WS-152	Ultraviolet radiation sensor	0-15 mW/cm ² , UV index 0-15, 290-390 nm, 10-30 V DC, RS-485 Modbus
SG-WS-145	Sunshine duration sensor	0-24 h, resolution 0.1 h, 0.3-3 um, 4-20 mA / 0-5 V / RS-485
SG-SRD-118	Solar radiation sensor	Not quote-ready: range, spectral response, calibration, interface and power must be confirmed for the exact configuration.
SG-SRD-119	Quantum PAR sensor	Not quote-ready: range, spectral response, calibration, interface and power must be confirmed for the exact configuration.

Air temperature, humidity, pressure and ambient air sensors (1/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-WS-130: Atmospheric temperature, humidity & pressure sensor

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Parameters	Notes
SG-WS-119	6-in-1 gas head: ozone, sulphur dioxide, nitrogen dioxide, carbon monoxide, particulate	0-5 ppm, RS-485 - add-on to a station
SG-WS-126	Carbon dioxide head	0-2000 or 0-5000 ppm, accuracy +/- (40 ppm + 2% FS), 4-20 mA or RS-485
SG-WS-148	Sulphur dioxide head	0-5 ppm, resolution 0.001 ppm, accuracy +/-3%, RS-485
SG-WS-130	Temperature + humidity + barometric pressure	-40 to 80 C +/-0.5 C; 0-100 %RH +/-5%; 12-24 V DC; RS-485
SG-WS-131	Temperature + humidity + barometric pressure, platinum-resistance element	Same sensing ranges as SG-WS-130; PT temperature module

Air temperature, humidity, pressure and ambient air sensors (2/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-WS-156: Wall-mounted temperature & humidity sensor

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Parameters	Notes
SG-WS-132	Temperature + humidity	-40 to 80 C +/-0.5 C, 0-100 %RH +/-5%, 12-24 V DC, RS-485
SG-WS-156	Temperature + humidity, wall-mounted	-50 to 100 C +/-0.5 C, 0-100 %RH, 12-24 V DC, RS-485
SG-WS-150	Temperature + humidity + pressure + illuminance + carbon dioxide (5-in-1)	500-1100 hPa, 0-200000 lux, 0-2000 ppm, 12-24 V DC, RS-485
SG-WS-151	Temperature + humidity + particulate (4-in-1)	PM2.5 at 0-1000 and PM10 at 0-2000 ug/m3, 12-24 V DC, RS-485
SG-THS-165	Atmospheric temperature, humidity and pressure sensor	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.

Air temperature, humidity, pressure and ambient air sensors (3/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-THS-169: Outdoor temperature & humidity transmitter

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Parameters	Notes
SG-THS-166	Atmospheric temperature, humidity and pressure sensor	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.
SG-THS-167	Atmospheric temperature, humidity and pressure sensor	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.
SG-THS-164	Air temperature + humidity	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.
SG-THS-169	Outdoor temperature and humidity transmitter	Not quote-ready: range, accuracy, interface, enclosure and power must be confirmed for the exact configuration.

Weather station data loggers

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-DAQ-146: Weather-station data logger with touch display

MODEL SELECTION

SG code	Type	Notes
SG-DAQ-146	Data logger with 7-inch touch display	32 parameters, 4 GB storage, Ethernet standard with 4G / Wi-Fi / LoRaWAN option, supplied as a kit with enclosure
SG-DAQ-147	Data logger with colour display and relay option	32 parameters, Ethernet / Wi-Fi / 4G upload, blind-mate connectors, battery supply option
SG-DAQ-153	Weather-station data logger	Data acquisition, storage, transmission and management; real-time, history, table, curve and download views. Not quote-ready: I/O, protocols, power and storage capacity require confirmation.
SG-DAQ-154	Weather-station data logger	Not quote-ready: I/O, protocols, storage capacity, enclosure and power must be confirmed for the exact configuration.

LoRaWAN and 4G backhaul for field sites (1/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.

MODEL SELECTION

SG code	Type	Notes
SG-RTU-160	LoRaWAN telemetry terminal with digital I/O and relay	Eight regional bands, Class C, RS-232 and RS-485, SPDT relay, 5-24 V DC, IP30
SG-RTU-161	4G telemetry terminal	IP65 enclosure with antenna; MQTT and HTTP; configurable access point name; one-minute default upload
SG-GW-144	Indoor LoRaWAN gateway	10 parallel paths; built-in network server
SG-GW-189	LoRaWAN and edge gateway	Ethernet and Wi-Fi backhaul, all LoRaWAN bands, power amplifier and low-noise amplifier, 116 x 41 x 105 mm
SG-GW-190	LoRaWAN and edge gateway, compact	Ethernet, Wi-Fi and 4G, 30 x 63 x 101.6 mm
SG-GW-187	Industrial edge gateway	DC 9-36 V, WAN and LAN, USB, GNSS / Wi-Fi / 4G antenna ports, RS-232, dual CAN, dual RS-485, dual DI and DO

LoRaWAN and 4G backhaul for field sites (2/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-RTR-122: Industrial 4G router with satellite positioning

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Type	Notes
SG-RTR-116	Industrial 4G LTE router with Wi-Fi and dual SIM	LTE CAT 4, RS-232/RS-485, DI and DO, IPsec and OpenVPN, DIN rail
SG-RTR-122	Industrial 4G router with GNSS	GNSS confirmed. Not quote-ready: bands, ports, protocols, power and enclosure must be confirmed for the exact configuration.
SG-DTU-111	RS-485 to LoRaWAN converter	RS-485 and Modbus with interrupt input, external 7-24 V DC
SG-WS-103	SDI-12 to LoRaWAN, NB-IoT or LTE-M converter	Switchable 3.3 / 5 / 12 V sensor supply, -40 to +85 C, GNSS option, BLE configuration and over-the-air update, solar with 8500 mAh cell
SG-NODE-103	LoRaWAN input / output node	2 x bidirectional DI, 2 x DO, 2 x relay 5 A at 250 V AC or 30 V DC, 2 x 0-20 mA AI, 2 x 0-30 V AI, 1 x counter, external 7-24 V DC
SG-NODE-102	Bluetooth to LoRaWAN hub node	Radio bridge for short-range sensors

LoRaWAN and 4G backhaul for field sites (3/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-RTU-141: Telemetry terminal

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Type	Notes
SG-RTU-127	5G / 4G telemetry unit	8 serial ports (2 x RS-232/RS-485, 5 x RS-485, 1 x CAN), rain input, AI and DI, 2 relays, dual power, Modbus / DLT645 / DNP3 to MQTT, 209 x 150 x 55 mm
SG-RTU-141	Water telemetry terminal	Not quote-ready: sensor inputs, radio, protocols, power and enclosure must be confirmed for the exact configuration.
SG-RTU-143	Low-power pressure and level telemetry terminal	DY variant has no analog input. Not quote-ready: sensor interface, radio, power and enclosure must be confirmed for the exact configuration.
SG-RTU-158	Battery-powered pipeline telemetry terminal	Low-duty-cycle irrigation main monitoring
SG-RTU-159	Battery-powered pipeline telemetry terminal with GNSS	Adds position reporting
SG-DTU-103	Wireless communication terminal with RS-485 and GNSS	RS-485 interface with satellite positioning

Solar power, masts, cabinets and enclosures (1/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-SCC-194: Solar power kit for a remote node

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Item	Notes
SG-SCC-193	Solar power kit for a remote node	60 W panel with 12 V / 10 A controller, IP67, -40 to +70 C
SG-SCC-194	Solar power kit for a remote node	Not quote-ready: dimensions, materials, included components and load ratings must be confirmed for the exact configuration.
SG-MTG-158	Mounting mast, 10 m galvanised steel	4 + 3 + 3 m sections with foundation embedment set
SG-MTG-159	Mounting mast, 10 m stainless steel	4 + 3 + 3 m sections with foundation embedment set
SG-MTG-160	Mounting mast, 3 m galvanised steel	1.2 + 1.8 m sections with foundation embedment set
SG-MTG-163	Tripod and mast accessory set	2.5 m tripod with lightning rod

Solar power, masts, cabinets and enclosures (2/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-MTG-161: Outdoor monitoring cabinet, stainless steel

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Item	Notes
SG-MTG-165	Weather-station mounting accessory	Not quote-ready: dimensions, materials, included components and load ratings must be confirmed for the exact configuration.
SG-MTG-154	Outdoor monitoring cabinet	Houses a data logger or power system
SG-MTG-161	Outdoor monitoring cabinet, stainless steel	Houses a data logger or power system
SG-MTG-155	Lightning protection set	Lightning rod with steel base plate
SG-MTG-156	Solar power system, 100 W	Monocrystalline 100 W panel at 18 V, 40 Ah lithium at 12 V DC, integrated PWM 10 A controller
SG-MTG-157	Solar power system, 60 W	60 W panel with solar controller, 30 Ah lithium and cabling

Solar power, masts, cabinets and enclosures (3/3)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-ENC-1619: Industrial waterproof enclosure

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Item	Notes
SG-ENC-104	Outdoor equipment enclosure	ABS, IP66, 280 x 280 x 130 mm
SG-ENC-1619	Industrial waterproof enclosure	Polycarbonate body
SG-PVM-101	Bifacial TOPCon photovoltaic module	TOPCon N-type; bifaciality at or above 85%; strong low-light response; anti-LeTID / anti-PID; power temperature coefficient down to -0.30 %/K; SMBB multi-busbar
SG-PVM-102	Bifacial TOPCon photovoltaic module	TOPCon N-type; bifaciality at or above 85%; strong low-light response; anti-LeTID / anti-PID; power temperature coefficient down to -0.30 %/K; SMBB multi-busbar
SG-PSU-118	Power-over-Ethernet adapter	Matched accessory for networked field equipment

Irrigation control and water monitoring

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-DRV-161: LoRaWAN solenoid valve controller

MODEL SELECTION

SG code	Item	Notes
SG-PRS-145	Differential pressure transmitter	0-600 kPa, 4-20 mA / 0-5 V DC / 0.5-4.5 V DC / RS-485, optional display - greenhouse vent and filter differential monitoring
SG-DRV-161	LoRaWAN solenoid valve controller	2 valve outputs at 5 / 9 / 12 V, 2 pulse inputs, 10000 mAh lithium with 1.2 W solar, IP67
SG-OCF-104	Non-contact radar surface-velocity sensor	0.1 to 20 m/s, +/-1% FS, RS-485 Modbus-RTU, IP68, automatic angle correction
SG-WS-129	Evaporation sensor	0-1000 mm, +/-0.5%, resolution 0.1 mm, 4-20 mA or RS-485
SG-WQE-108	Source-water quality probe	Chemical oxygen demand by ultraviolet absorbance with turbidity reference, automatic cleaning brush, 4-20 mA and RS-485

Crop, visibility, snow and surface condition monitoring (1/2)

Model-specific selection data. Use only the values printed on the selected SG-code row.



SG-PEST-101: Remote insect-trap monitoring station

Representative family visual; exact housing may vary by configuration.

MODEL SELECTION

SG code	Item	Notes
SG-PEST-101	Remote insect monitoring station	Automatic trapping with image capture
SG-WS-153	Visibility sensor	Light scattering, 5-10 km basic or 5-20 km extended, 12 V DC, RS-485, anodised aluminium, IP65 - fog alerting on farm roads and orchard blocks
SG-WS-154	Present-weather and visibility sensor	10 m to 10 km extendable to 100 km, identifies rain, snow and fog, precipitation 0-200 mm/h, RS-485 or RS-232 - fog, rain and snow discrimination for farm-road and orchard alerting
SG-WS-146	Ultrasonic snow-depth sensor	0-1000 mm, +/-0.1% FS, 12 V DC, RS-485, 3 W low-temperature heating, IP65 - winter cover and snow-water accounting on fields

Crop, visibility, snow and surface condition monitoring (2/2)

Model-specific selection data. Use only the values printed on the selected SG-code row.

MODEL SELECTION

SG code	Item	Notes
SG-WS-147	Laser snow-depth sensor	0.05 to 2.5 m, resolution 1 mm, +/-1 mm, 635 nm class II, 10-30 V DC, RS-485 - snow-depth records on trial plots and pasture
SG-WS-144	Non-contact surface condition sensor	Water, ice and snow 0-10 mm, grip 0.01 to 0.82, surface temperature -20 to 60 C, RS-485 - frost and ice alerting on farm and orchard access roads
SG-WS-160	Non-contact road condition sensor	Multi-spectral, measuring distance 2-15 m, water, ice and snow to 10 mm - frost and ice alerting on farm and orchard access roads

Interfaces used in this catalog

Use an interface only where it appears on the selected SG-code row.

INTERFACE	TYPICAL ROLE	SELECTION CHECK
RS-485 Modbus-RTU	Multi-drop field sensors	Address, baud rate and cable length
SDI-12	Low-power environmental sensors	Logger channel and sensor supply
Pulse	Rain gauges and counters	Pulse type and input rating
4-20 mA / voltage	Analogue transmitters	Input range and loop supply
LoRaWAN	Low-data-rate field backhaul	Regional band and network
LTE / NB-IoT / LTE-M	Cellular backhaul	Carrier and antenna

DO NOT MIX

- Radio families
- Analogue ranges
- Supply voltage

STATE ON THE ORDER

- SG code
- Output variant
- Regional radio band

Match the monitoring need to the hardware path

Start with the measurement decision, then add only the data path required at the site.

MONITORING NEED	PRIMARY HARDWARE
Irrigation timing	Weather station plus soil moisture
Frost and heat exposure	Ambient temperature and humidity
Rain event and accumulation	Rain gauge or precipitation sensor
Crop-light response	PAR or radiation sensor
Canal monitoring	Surface velocity and telemetry
Remote field records	Data logger and backhaul

MEASUREMENT INPUTS
• Parameter • Range • Accuracy • Mounting

SITE INPUTS
• Power • Cable • Coverage • Quantity

Turn a monitoring need into an order

The quotation records the selected SG codes and their ordered configuration.

ORDER FIELD	WHAT TO STATE
Measurement	Parameter, range and accuracy
Mechanical	Mounting, connection and cable
Electrical	Supply and output
Communications	Protocol and regional band
Commercial	Quantity and destination

CATALOG USE

- Shortlist SG codes
- Keep each row intact
- State any required document

ORDER USE

- Use the quoted configuration
- Record quantity by SG code
- Keep destination-specific radio details

NOTE

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