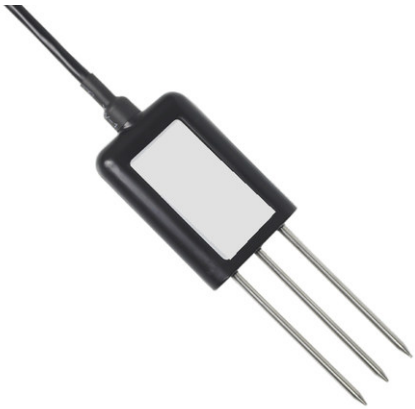
Instruments, Sensors & Connectivity

Product photographs and technical selection data



SG-EMF-110



SG-SOIL-121



SG-RTU-152

Product range

Level & Pressure · Flow & Water Metering · Water Quality · Agriculture & Environment · Data Acquisition & Connectivity · Industrial Sensing & Control · Electrical & Building Systems · Asset & Site Monitoring · Installation & Power Accessories

361 product references | English edition | November 2026

contact@sungene.net | sungeneiot.com

Product directory

REFERENCE	PRODUCT	PAGE
LEVEL & PRESSURE		
SG-PRS-130	Compact Pressure Transmitter	18
SG-PRS-131	Compact Pressure Transmitter	18
SG-PRS-132	Compact Pressure Transmitter	19
SG-PRS-133	Compact Pressure Transmitter	19
SG-PRS-134	Compact Pressure Transmitter	20
SG-PRS-135	Compact Pressure Transmitter	20
SG-PRS-136	Compact Pressure Transmitter	21
SG-PRS-137	Compact Pressure Transmitter	21
SG-PRS-138	Compact Pressure Transmitter	22
SG-PRS-139	Compact Pressure Transmitter	22
SG-PRS-140	Compact Pressure Transmitter	23
SG-PRS-141	Differential Pressure Transmitter	23
SG-PRS-145	Compact Differential Pressure Transmitter	24
SG-PRS-153	Monocrystalline Silicon Pressure and Differential Pressure Transmitters	24
SG-PRS-154	Intelligent Pressure and Differential Pressure Transmitter	25
SG-PRS-155	Monocrystalline Silicon Pressure and Differential Pressure Transmitters	25
SG-PRS-156	Intelligent Pressure and Differential Pressure Transmitter	26
SG-PRS-163	Industrial Pressure Transmitter	27
SG-PRS-164	Monocrystalline-silicon differential pressure transmitter	28
SG-PRS-165	Protected-head pressure transmitter	28
SG-PRS-166	Monocrystalline-silicon pressure transmitter	29
SG-PRS-170	Pressure transmitter with four-digit LCD	29
SG-PRS-171	Battery-powered digital pressure gauge	30

Product directory

REFERENCE	PRODUCT	PAGE
LEVEL & PRESSURE		
SG-PRS-172	Industrial Pressure Transmitters	30
SG-RLT-101	Radar Non-Contact Water Level Transmitter	31
SG-RLT-102	Radar Liquid Level Transmitter	32
SG-RLT-105	Radar Non-Contact Water Level Transmitter	33
SG-RLT-108	Non-contact radar water level sensor	33
SG-SLT-101	Submersible Level Transmitter	34
SG-SLT-102	Submersible Level Transmitter	34
SG-SLT-103	Submersible Level Transmitter	35
SG-SLT-104	Submersible Level Transmitter	35
SG-SLT-105	Submersible Level Transmitter	36
SG-SLT-106	Submersible Level Transmitter	36
SG-SLT-107	Submersible Level Transmitter	37
SG-SLT-108	Flanged Hydrostatic Liquid Level Transmitter	37
SG-SLT-109	Flanged Hydrostatic Liquid Level Transmitter	38
SG-SLT-110	Submersible Hydrostatic Water Level Transmitter	38
SG-SLT-117	Submersible Liquid Level Transmitter	39
SG-SLT-118	Flanged Hydrostatic Liquid Level Transmitter	40
SG-SLT-119	Hydrostatic Liquid Level Transmitter	40
SG-SLT-120	Hydrostatic and Submersible Water Level Transmitter	41
SG-SLT-121	Hydrostatic and Submersible Water Level Transmitter	41
SG-ULT-101	Non-Contact Ultrasonic Liquid Level Sensor	42
SG-ULT-102	Ultrasonic Liquid Level Transmitter	43
SG-ULT-103	Ultrasonic Non-Contact Level Transmitter	44

Product directory

REFERENCE	PRODUCT	PAGE
LEVEL & PRESSURE		
SG-ULT-104	Ultrasonic Non-Contact Level Transmitter	45
SG-ULT-105	Non-Contact Ultrasonic Level Meter	46
SG-PRS-175	Industrial Process Pressure Transmitter	46
SG-SLT-116	Wired RS485 Submersible Level Transmitter	47
SG-SLT-123	Intelligent Submersible Level Transmitter	47
FLOW & WATER METERING		
SG-EMF-102	Electromagnetic Flow Meter, Integrated and Remote	48
SG-EMF-103	Electromagnetic Flow Meter, Integrated and Remote	48
SG-EMF-106	Electromagnetic flow meter, inline and sanitary	49
SG-EMF-107	Electromagnetic flow meter, inline and sanitary	49
SG-EMF-109	Electromagnetic flow meter for conductive liquids	50
SG-EMF-110	Electromagnetic flow meter for conductive liquids	51
SG-FLW-102	Vortex Flow Meter	52
SG-FLW-103	Turbine Flow Meter	52
SG-FLW-104	Thermal gas mass flow meter	53
SG-FLW-105	Thermal Flow Switch and Flow Sensor	53
SG-FLW-106	Oval Gear Flow Meter	54
SG-FLW-107	Positive-Displacement Rotor Flow Meter	54
SG-FLW-108	Vortex Flow Meter	55
SG-FLW-109	Swirl (Vortex Precession) Flow Meter	55
SG-FLW-110	Liquid Turbine Flow Meter	56
SG-FLW-111	Gas Turbine Flow Meter	56
SG-FLW-112	Coriolis Mass Flow Meter	57

Product directory

REFERENCE	PRODUCT	PAGE
FLOW & WATER METERING		
SG-FLW-113	Gear Flow Meter	57
SG-FLW-114	Thermal Mass Flow Meter	58
SG-OCF-104	Non-Contact Radar Surface Velocity Sensor	58
SG-OCF-105	Radar Open-Channel Flow Meter	59
SG-OCF-106	Non-contact radar open-channel flow meter	59
SG-USF-104	Ultrasonic Flow Meters	60
SG-USF-105	Ultrasonic Flow Meters	60
SG-USF-106	Ultrasonic Flow Meters	61
SG-USF-107	Ultrasonic Flow Meters	61
SG-USF-108	Ultrasonic Flow Meters	62
SG-USF-109	Ultrasonic Flow Meter (Clamp-On / Insertion / Portable)	62
SG-USF-110	Ultrasonic Flow Meter (Clamp-On / Insertion / Portable)	63
SG-USF-112	Ultrasonic Flow Meter (Clamp-On / Insertion / Portable)	64
SG-USF-113	Ultrasonic Flow Meter (Clamp-On / Insertion / Portable)	65
WATER QUALITY		
SG-WQA-101	Multi-Parameter Water Quality Transmitter	66
SG-WQA-104	Conductivity, TDS and resistivity controller	66
SG-WQA-105	pH / ORP controller	67
SG-WQA-106	Universal digital water-quality controller	67
SG-WQA-107	Dual-channel water-quality controller	68
SG-WQA-108	Chemical oxygen demand analyzer	68
SG-WQA-109	Permanganate index analyzer	69
SG-WQA-110	Ammonia nitrogen analyzer	69

Product directory

REFERENCE	PRODUCT	PAGE
WATER QUALITY		
SG-WQA-111	Total nitrogen analyzer	70
SG-WQA-112	Total phosphorus analyzer	70
SG-WQA-113	Online Water Quality Monitoring Station	71
SG-WQA-117	Residual chlorine analyzer	71
SG-WQE-101	Dissolved Oxygen Sensor	72
SG-WQE-102	ORP (Redox Potential) Electrode	73
SG-WQE-103	Online Turbidity Sensor	74
SG-WQE-104	Multi-parameter water quality sonde	75
SG-WQE-105	pH Electrode with Temperature Compensation	76
SG-WQE-106	Online Conductivity, Salinity and TDS Sensor	77
SG-WQE-107	Ammonium Ion (NH4+) Water Quality Electrode	78
SG-WQE-108	UV Absorbance COD Water-Quality Probe	78
SG-WQE-109	Online Residual Chlorine Sensor	79
SG-WQE-110	Sludge Concentration Electrode	80
SG-WQE-111	Low Turbidity Electrode	80
SG-WQE-112	Turbidity Electrode	81
SG-WQE-113	pH Plastic Electrode	81
SG-WQE-114	pH Glass Electrode	82
SG-WQE-115	Optical Dissolved Oxygen Sensor	82
SG-WQE-116	ORP Glass Electrode	83
SG-WQE-117	ORP Plastic Electrode	83
SG-WQE-118	ORP Digital Electrode	84
SG-WQE-119	pH PTFE Electrode	84

Product directory

REFERENCE	PRODUCT	PAGE
WATER QUALITY		
SG-WQE-120	pH Glass Electrode	85
SG-WQE-121	pH Glass Electrode	85
SG-WQE-122	pH Flat Electrode	86
SG-WQE-123	pH Pure Water Electrode	86
SG-WQE-124	pH Digital Electrode	87
SG-WQE-125	Conductivity Stainless Steel Electrode	87
SG-WQE-126	Graphite conductivity electrode	88
SG-WQE-127	Conductivity Digital Electrode	88
SG-WQE-128	Conductivity Four-electrode Digital Sensor	89
SG-WQE-130	In-Situ UV-Vis Spectral Water Quality Probe	89
AGRICULTURE & ENVIRONMENT		
SG-RG-102	Tipping Bucket Rain Gauge, 0.2 mm Resolution	90
SG-RG-103	Rain and Snow Presence Detector	90
SG-RG-105	Radar Rainfall Sensor	91
SG-RG-109	Tipping-Bucket Rain Gauge	92
SG-SOIL-102	Soil Moisture, Temperature and EC Sensor	93
SG-SOIL-104	Handheld multi-parameter soil meter	93
SG-SOIL-105	Soil Multi-Parameter Sensor	94
SG-SOIL-106	Soil Multi-Parameter Sensor	94
SG-SOIL-107	Soil Multi-Parameter Sensor	95
SG-SOIL-108	Soil Multi-Parameter Sensor	96
SG-SOIL-109	Soil Multi-Parameter Sensor	96
SG-SOIL-110	Soil Multi-Parameter Sensor	97

Product directory

REFERENCE	PRODUCT	PAGE
AGRICULTURE & ENVIRONMENT		
SG-SOIL-111	Soil Multi-Parameter Sensor	98
SG-SOIL-112	Soil Multi-Parameter Sensor	99
SG-SOIL-113	Soil Multi-Parameter Sensor	100
SG-SOIL-114	Soil Multi-Parameter Sensor	100
SG-SOIL-115	Soil Multi-Parameter Sensor	101
SG-SOIL-121	Soil Moisture, Temperature and EC Sensor	102
SG-SRD-110	Total solar radiation sensor (pyranometer, ISO 9060 Class A)	103
SG-SRD-113	PAR (Photosynthetically Active Radiation) Quantum Sensor	103
SG-SRD-114	Class C Pyranometer	104
SG-SRD-117	Albedometer (Reflected Solar Radiation Sensor)	105
SG-THS-140	Wireless temperature and humidity sensor	106
SG-THS-154	Atmospheric Temperature, Humidity and Barometric Pressure Sensor	107
SG-THS-156	Outdoor Temperature and Humidity Sensor	108
SG-WND-102	Wind Speed Sensor	109
SG-WND-103	Cup Anemometer (Wind Speed Sensor)	110
SG-WND-104	Wind speed sensor (0-45 m/s)	111
SG-WND-105	Duct and Pipe Air Velocity Sensor	112
SG-WND-107	Wind Direction Sensor	112
SG-WND-108	Wind Direction Sensor	113
SG-WND-109	Wind Direction Sensor	114
SG-WND-110	Combined Wind Speed and Direction Sensor	115
SG-WND-111	Ultrasonic Wind Speed and Direction Sensor	115
SG-WS-108	All-in-One Weather Station Kit	116

Product directory

REFERENCE	PRODUCT	PAGE
AGRICULTURE & ENVIRONMENT		
SG-WS-109	All-in-One Weather Station Kit	**116**
SG-WS-110	Seven-in-One All-in-One Weather Station	**117**
SG-WS-111	10-in-1 Ultrasonic Integrated Sensor	**118**
SG-WS-112	2-in-1 Ultrasonic Wind Speed and Direction Sensor	**119**
SG-WS-113	2-in-1 Ultrasonic Wind Speed and Direction Sensor	**119**
SG-WS-114	3D Ultrasonic Anemometer	**120**
SG-WS-115	4-in-1 Gas Sensor	**120**
SG-WS-116	5-in-1 Ultrasonic Integrated Sensor	**121**
SG-WS-117	5-in-1 Ultrasonic Integrated Sensor	**121**
SG-WS-118	6-in-1 Ultrasonic Integrated Sensor	**122**
SG-WS-119	6-in-1 Gas Sensor	**122**
SG-WS-120	7-in-1 Ultrasonic Integrated Sensor	**123**
SG-WS-121	7-in-1 Ultrasonic Integrated Sensor	**123**
SG-WS-122	8-in-1 Ultrasonic Integrated Sensor	**124**
SG-WS-123	9-in-1 Ultrasonic Integrated Sensor	**125**
SG-WS-124	ABS Tipping Bucket Rain Gauge	**126**
SG-WS-125	CO sensor	**126**
SG-WS-126	CO2 Sensor	**127**
SG-WS-127	Double Tipping Bucket Rain Gauge	**128**
SG-WS-128	Wind Direction Sensor	**129**
SG-WS-129	Evaporation Sensor	**130**
SG-WS-130	Atmospheric Temperature, Humidity and Pressure Sensor	**130**
SG-WS-131	Atmospheric Temperature, Humidity and Pressure Sensor	**131**

Product directory

REFERENCE	PRODUCT	PAGE
AGRICULTURE & ENVIRONMENT		
SG-WS-132	Atmospheric Temperature and Humidity Sensor	131
SG-WS-133	Illumination Sensor	132
SG-WS-134	NO2 sensor	132
SG-WS-135	Noise Sensor	133
SG-WS-136	Ozone(O3) sensor	133
SG-WS-137	Photosynthetically Active Radiation Sensor(PAR Sensor)	134
SG-WS-138	PM2.5+ PM10 Integrated Sensor	134
SG-WS-139	PM100 Sensor	135
SG-WS-140	PM2.5+ PM10+CO2 Integrated Sensor	135
SG-WS-141	Piezoelectric Rain Sensor	136
SG-WS-142	Stainless Steel Tipping Bucket Rain Gauge	136
SG-WS-143	Rain and Snow Sensor	137
SG-WS-144	Non-contact Road Surface Condition Detection Sensor	137
SG-WS-145	Sunshine Duration Sensor	138
SG-WS-146	Ultrasonic Snow Depth Sensor	138
SG-WS-147	Laser Snow Depth Sensor	139
SG-WS-148	SO2 sensor	139
SG-WS-149	Wind Speed Sensor	140
SG-WS-150	5-in-1 Temperature, Humidity, Pressure, Illumination, CO2 Sensor	141
SG-WS-151	4-in-1 Temperature, Humidity, PM2.5+ PM10 Sensor	141
SG-WS-152	Ultraviolet Radiation Sensor	142
SG-WS-153	Visibility Sensor	143
SG-WS-154	Visibility Sensor	143

Product directory

REFERENCE	PRODUCT	PAGE
AGRICULTURE & ENVIRONMENT		
SG-WS-155	Combined Wind Speed and Direction Sensor	144
SG-WS-156	Wall-mounted temperature and humidity sensor	144
SG-WS-157	Atmospheric Visibility Sensor	145
SG-WS-158	Optical Visibility Sensor	146
SG-WS-159	Laser Cloud Height Ceilometer, 12 km	147
SG-WS-160	Non-contact road condition sensor	147
SG-WS-162	Ultrasonic All-in-One Automatic Weather Station	148
SG-WS-163	Ultrasonic Automatic Weather Station	149
SG-WS-164	Ultrasonic Automatic Weather Station	149
SG-SOIL-127	Soil Temperature, Moisture and Salinity Sensor	150
SG-THS-115	Wireless Temperature and Humidity Sensor	150
SG-THS-122	Wireless Environmental and Condition Monitoring Sensors	151
DATA ACQUISITION & CONNECTIVITY		
SG-DAQ-110	AI Image Meter-Reading End Node	152
SG-DAQ-111	Outdoor dry contact and pulse counter sensor	152
SG-DAQ-148	Paperless recorder, compact display	153
SG-DAQ-149	Paperless recorder, seven-inch display	153
SG-DAQ-150	Paper chart recorder	154
SG-DAQ-151	Paperless recorder, ten-inch display	154
SG-DTU-111	RS485-to-LoRaWAN Data Transmission Unit	155
SG-DTU-122	RS485/UART Wireless Data Transmission Unit	156
SG-ISO-146	DIN-Rail Analogue Signal Isolator	156
SG-ISO-147	DIN-Rail Analogue Signal Isolator	157

Product directory

REFERENCE	PRODUCT	PAGE
DATA ACQUISITION & CONNECTIVITY		
SG-ISO-148	DIN-Rail Analogue Signal Isolator	157
SG-NODE-108	Universal Wireless Sensor End Node	158
SG-RTU-143	Low-Power Pressure and Water-Level Telemetry Terminal	158
SG-RTU-144	Hydrological Telemetry Terminal	159
SG-RTU-145	Water Level Telemetry Terminal	160
SG-RTU-152	Industrial Telemetry Remote Terminal Unit	161
SG-RTU-157	Industrial Telemetry Remote Terminal Unit	161
SG-DAQ-152	Flow Totalizer	162
SG-GW-144	Indoor LoRaWAN Gateway	162
SG-HMI-113	5-inch Wireless HMI Touch Screen	163
SG-NODE-103	Generic LoRaWAN End Node	163
SG-RTU-161	4G Telemetry Module in Protective Enclosure	164
SG-SBC-103	USB LoRaWAN Development Adapter	164
INDUSTRIAL SENSING & CONTROL		
SG-AQM-127	Outdoor Noise Level Sensor	165
SG-AQM-128	Multi-in-One Ambient Gas Sensor	165
SG-CTL-131	Intelligent PID Process Controller	166
SG-CTL-132	Flow Batch Controller	166
SG-DRV-161	Wireless Solenoid Valve Controller with Pulse Counting	167
SG-HMI-120	Panel Process Indicator and Totalizer	167
SG-HMI-121	Panel Process Indicator and Totalizer	168
SG-HMI-122	Panel Process Indicator and Totalizer	168
SG-TMP-174	Programmable temperature transmitter module	169

Product directory

REFERENCE	PRODUCT	PAGE
INDUSTRIAL SENSING & CONTROL		
SG-TMP-175	Direct-lead thermocouple	169
SG-TMP-176	Surface-mounted resistance temperature sensor	170
SG-TMP-177	Direct-lead resistance temperature sensor	170
SG-TMP-178	Armoured thermocouple with junction box	171
SG-TMP-179	Armoured resistance temperature sensor	171
SG-TMP-180	Temperature probe with transmitter head	172
SG-VIB-114	Industrial Accelerometer for Vibration Monitoring	173
SG-VIB-115	Industrial Vibration Monitoring Accelerometer	174
SG-VIB-116	Advanced Vibration Monitoring Accelerometer	175
SG-WQA-102	Online Density Meter	176
SG-WQA-103	Online Density Meter	176
SG-AQM-104	Indoor CO2 and Ambient Air Quality Sensor	177
SG-AQM-119	Wireless Noise Sensor	177
SG-AQM-126	Wired RS485 Noise Sensor	178
SG-CTL-128	LoRa Single-Live-Wire Smart Switch Panel	178
SG-DRV-162	LoRa AC Load Switch	179
SG-DRV-163	4G Dual-Channel Motor Controller	179
SG-DRV-164	LoRa Dual-Channel Motor Controller	180
SG-HMI-114	64x16 LED Dot-Matrix Indicator Display	180
SG-LEAK-101	Wireless Water Leak Detection Sensors	181
SG-LEAK-123	Wired RS485 Water Leak Detector	181
SG-TMP-122	Wireless Contact Temperature Sensor and Transmitter	182
SG-TMP-125	Waterproof Wireless Temperature Logger	182

Product directory

REFERENCE	PRODUCT	PAGE
ELECTRICAL & BUILDING SYSTEMS		
SG-BMS-101	Online Battery Monitoring System	183
SG-CTD-101	DC Voltage Sensor	183
SG-CTD-119	Hall-Effect Open-Loop Current Sensor	184
SG-CTD-126	Hall-Effect Open-Loop Current Sensor	184
SG-CTL-101	Air conditioner controller with energy metering	185
SG-CTL-110	Smart wall control panel (2 to 8 key)	185
SG-CTL-112	Smart wall control panel (2 to 8 key)	186
SG-DRV-103	Multi-Channel Bus Switch Actuator	186
SG-DRV-104	Multi-Channel Bus Switch Actuator	187
SG-DRV-105	Multi-Channel Bus Switch Actuator	187
SG-DRV-108	DIN-Rail Bus Switch Actuator	188
SG-DRV-109	Multi-Channel Bus Switch Actuator	188
SG-DRV-112	Multi-Channel 0-10 V Dimming Actuator	189
SG-DRV-113	Multi-Channel 0-10 V Dimming Actuator	189
SG-DRV-114	Multi-Channel 0-10 V Dimming Actuator	190
SG-DRV-125	DIN-Rail Bus Switch Actuator	190
SG-DRV-127	DIN-Rail Bus Switch Actuator	191
SG-EFD-101	Arc Fault Detection Device	191
SG-EFD-175	Intelligent Residual Current Relay	192
SG-EFD-176	Intelligent Residual Current Relay	192
SG-EFD-177	Intelligent Residual Current Relay	193
SG-EFD-178	Intelligent Residual Current Relay	193
SG-EFD-179	Multi-Channel Residual Current Monitor	194

Product directory

REFERENCE	PRODUCT	PAGE
ELECTRICAL & BUILDING SYSTEMS		
SG-EFD-191	Intelligent Residual Current Relay	194
SG-EM-129	DIN-Rail Single-Phase Energy Meter	195
SG-EM-130	Dormitory Prepaid Energy Management Meter	195
SG-EM-139	Single-Phase Prepayment Energy Meter	196
SG-EM-201	Single-phase DIN-rail energy meter	197
SG-EM-205	Single-Phase Three-Wire kWh Meter	198
SG-EM-206	Three-Phase DIN-Rail Multi-Tariff Energy Meter	199
SG-EML-101	Centrally Powered and Controlled Evacuation Indicator Luminaire	200
SG-EML-102	Centrally Powered and Controlled Evacuation Indicator Luminaire	200
SG-EML-103	Centrally Controlled Emergency Evacuation Sign Luminaire	201
SG-EML-104	Centrally Controlled Emergency Evacuation Sign Luminaire	201
SG-EML-105	Centrally Controlled Emergency Evacuation Sign Luminaire	202
SG-EML-106	Centrally Controlled Emergency Evacuation Sign Luminaire	202
SG-EML-107	Centrally Controlled Emergency Evacuation Sign Luminaire	203
SG-EML-109	Centrally Controlled Emergency Evacuation Sign Luminaire	203
SG-EML-110	Centrally Controlled Emergency Evacuation Sign Luminaire	204
SG-EML-145	Self-contained battery evacuation luminaire, centrally controlled	204
SG-EML-148	Centrally Controlled Emergency Evacuation Sign Luminaire	205
SG-EML-149	Centrally Controlled Emergency Evacuation Sign Luminaire	205
SG-EML-150	Centrally Controlled Emergency Evacuation Sign Luminaire	206
SG-EML-151	Centrally Controlled Emergency Evacuation Sign Luminaire	206
SG-EML-152	Centrally Controlled Emergency Evacuation Sign Luminaire	207
SG-EML-153	Centrally Controlled Emergency Evacuation Sign Luminaire	207

Product directory

REFERENCE	PRODUCT	PAGE
ELECTRICAL & BUILDING SYSTEMS		
SG-EVC-123	Split-Type DC Fast Charging Stack	208
SG-EVC-145	7 kW AC EV Charging Station	208
SG-HMI-104	Wireless Temperature Monitoring Display Host	209
SG-HMI-105	Smart Wall Touch Panel, 4-Inch	209
SG-IMD-102	Coupling Unit for DC Insulation Monitoring	210
SG-MCM-145	End-Circuit Power Monitoring Modules	210
SG-NODE-101	Composite Wireless Sensor Node	211
SG-OCC-101	Combined Illuminance and Occupancy Bus Sensor	211
SG-OCC-102	Combined Illuminance and Occupancy Bus Sensor	212
SG-OCC-103	Combined Illuminance and Occupancy Bus Sensor	212
SG-OCC-105	Combined motion and illuminance sensor	213
SG-PM-116	Three-Phase Network Power Monitoring Meters	213
SG-PM-120	Three-Phase Network Power Monitoring Meters	214
SG-PM-123	Three-Phase Network Power Monitoring Meters	214
SG-PM-240	Three-Phase Power Analyser	215
SG-PM-241	Dual-Circuit Multifunction Power Meter	216
SG-PRD-105	Anti-Islanding Protection Relay	217
SG-PRD-187	Arc-Light Sensor for Arc-Flash Protection	217
SG-PRD-188	Arc-Light Sensor for Arc-Flash Protection	218
SG-PRD-189	Switchgear Integrated Measurement and Control Device	218
SG-PSU-102	Bus system power supply with choke and short-circuit protection	219
SG-RFID-101	Multi-Channel Wireless Sensor Receiver	219
SG-THS-101	Wireless Temperature Sensor, DIN-Rail Mount	220

Product directory

REFERENCE	PRODUCT	PAGE
ELECTRICAL & BUILDING SYSTEMS		
SG-TMP-103	Multi-Channel Temperature Inspection Instruments	220
SG-TMP-105	8-Channel Temperature Scanner	221
SG-TMP-107	Wireless Electrical Contact Temperature Sensor	221
SG-VT-101	Low-Voltage Instrument Voltage Transformer	222
SG-DRV-118	DIN-Rail Lighting Switch Actuator	222
SG-EM-218	Single-Phase Direct-Connected AMI Smart Meter	223
SG-EM-219	Three-Phase Direct-Connected AMI Smart Meter	223
SG-EM-220	Three-phase CT-connected AMI smart meter	224
SG-FDM-101	Fire Door Linkage Module	224
SG-FDM-102	Fire Door Monitoring Zone Sub-Panel	225
SG-PRD-176	Switchgear Partial Discharge Monitoring Device	225
SG-PRD-178	Switchgear Partial Discharge Monitoring Device	226
SG-PRS-106	24 V DC Damper Actuator	226
ASSET & SITE MONITORING		
SG-TRK-101	Vehicle and Asset Tracking Terminal	227
SG-TRK-102	Waterproof Asset and Fleet Tracker	228
SG-TRK-103	Long-Standby GPS Asset Tracker	228
SG-TRK-104	LoRaWAN GPS Asset Tracker	229
SG-TRK-105	LoRaWAN GPS Asset Tracker	229
INSTALLATION & POWER ACCESSORIES		
SG-MTG-154	Outdoor Monitoring Enclosure	230
SG-MTG-155	Lightning protection devices	230
SG-MTG-161	Stainless Steel Outdoor Monitoring Enclosure	231

SG-PRS-130

Compact Pressure Transmitter

Compact industrial housing



Configuration	Compact industrial housing
Measuring range	-100 kPa to +100 MPa
Output options	4-20 mA, 0-10 V, 0-5 V, 0.5-4.5 V or RS485
Process connection	M20×1.5 or G½

SG-PRS-131

Compact Pressure Transmitter

Compact high-temperature transmitter



Configuration	Compact high-temperature transmitter
Measuring range	-100 kPa to +100 MPa
Output options	4-20 mA, 0-10 V, 0-5 V, 0.5-4.5 V or RS485
Process connection	M20×1.5 or G½

SG-PRS-132

Compact Pressure Transmitter

DIN-connector compact transmitter



Configuration	DIN-connector compact transmitter
Measuring range	-100 kPa to +100 MPa
Output options	4-20 mA, 0-10 V, 0-5 V, 0.5-4.5 V or RS485
Process connection	M20×1.5 or G½

SG-PRS-133

Compact Pressure Transmitter

Compact threaded transmitter



Configuration	Compact threaded transmitter
Measuring range	-100 kPa to +100 MPa
Output options	4-20 mA or 0.5-4.5 V
Process connection	M20×1.5 or G½

SG-PRS-134

Compact Pressure Transmitter

Aviation-connector compact transmitter



Configuration	Aviation-connector compact transmitter
Measuring range	-100 kPa to +100 MPa
Output options	4-20 mA, 0-10 V, 0-5 V, 0.5-4.5 V or RS485
Process connection	M20×1.5 or G½

SG-PRS-135

Compact Pressure Transmitter

Flush-diaphragm compact transmitter



Configuration	Flush-diaphragm compact transmitter
Measuring range	0-20 MPa
Output options	4-20 mA, 0-10 V, 0-5 V, 0.5-4.5 V or RS485
Process connection	M20×1.5 or G½

SG-PRS-136

Compact Pressure Transmitter

Compact transmitter with local display



Configuration	Compact transmitter with local display
Measuring range	-100 kPa to +100 MPa
Output options	4-20 mA
Process connection	M20×1.5 or G½

SG-PRS-137

Compact Pressure Transmitter

Strain-gauge transmitter



Configuration	Strain-gauge transmitter
Measuring range	Full-scale options 10-500 MPa
Output options	4-20 mA
Process connection	M20×1.5 or G½

SG-PRS-138

Compact Pressure Transmitter

Flush strain-gauge transmitter



Configuration	Flush strain-gauge transmitter
Measuring range	Full-scale options 10-100 MPa
Output options	4-20 mA
Process connection	M20×1.5 or G½

SG-PRS-139

Compact Pressure Transmitter

Direct-cable compact transmitter



Configuration	Direct-cable compact transmitter
Measuring range	-100 kPa to +100 MPa
Output options	4-20 mA, 0-10 V, 0-5 V, 0.5-4.5 V or RS485
Process connection	M20×1.5 or G½

SG-PRS-140

Compact Pressure Transmitter

Compact transmitter with hygienic connection



Configuration	Compact transmitter with hygienic connection
Measuring range	0-3.5 MPa
Output options	4-20 mA, 0-10 V, 0-5 V, 0.5-4.5 V or RS485
Process connection	50.5 mm clamp; configurable

SG-PRS-141

Differential Pressure Transmitter

Differential-pressure transmitter



Configuration	Differential-pressure transmitter
Measuring range	0-3.5 MPa
Output options	4-20 mA, 0-10 V, 0-5 V, 0.5-4.5 V, RS485 or 4-20 mA with HART

SG-PRS-145

Compact Differential Pressure Transmitter

Compact differential-pressure transmitter



Configuration	Compact differential-pressure transmitter
Measuring range	0-600 kPa
Output options	4-20 mA, 0-5 V, 0.5-4.5 V or RS485

SG-PRS-153

Monocrystalline Silicon Pressure and Differential Pressure Transmitters

Monocrystalline silicon differential-pressure transmitter



Configuration	Monocrystalline silicon differential-pressure transmitter
Measuring range	Full-scale options 200 Pa-40 MPa
Output options	4-20 mA with HART
Accuracy options	0.05% or 0.075%

SG-PRS-154

Intelligent Pressure and Differential Pressure Transmitter

Intelligent differential-pressure transmitter



Configuration	Intelligent differential-pressure transmitter
Measuring range	Full-scale options 1.5 kPa-35 MPa
Output options	4-20 mA or 4-20 mA with HART

SG-PRS-155

Monocrystalline Silicon Pressure and Differential Pressure Transmitters

Monocrystalline silicon pressure transmitter



Configuration	Monocrystalline silicon pressure transmitter
Measuring range	0-40 MPa
Output options	4-20 mA with HART
Process connection	M20×1.5
Accuracy options	0.05% or 0.075%

SG-PRS-156

Intelligent Pressure and Differential Pressure Transmitter

Intelligent pressure transmitter



Configuration	Intelligent pressure transmitter
Output options	4-20 mA, RS485 or 4-20 mA with HART
Process connection	M20×1.5 or G½

SG-PRS-163

Industrial Pressure Transmitter

Industrial pressure measurement

Pressure measurement for water systems, pump stations and industrial processes. Thread and electrical connector options support installation on existing pipework.



Measuring spans	0-0.2 MPa to 0-100 MPa, selected by application
Standard accuracy	0.5% FS; 0.25% FS and 1% FS options
Outputs	4-20 mA standard; voltage or RS485 / Modbus RTU options
Supply	10-30 VDC
Sensing diaphragm	316L stainless steel
Compatible media	Liquids and gases compatible with the wetted stainless steel
Process connections	G¼, G½ or M20 × 1.5
Electrical connections	Direct cable or DIN 43650
Protection	IP65
Operating temperature	-40 to +120 °C
Long-term stability	Less than 0.25% FS per year

Select the pressure span, process thread and electrical connector together. Route a 4-20 mA version to a current input; connect the digital version to the appropriate RS485 interface.

SG-PRS-164

Monocrystalline-silicon differential pressure transmitter

Measures differential pressure for industrial process monitoring.



Pressure type	Differential pressure
Output	4-20 mA, two wires; HART option
Supply	12-42 VDC; 15-42 VDC for HART
Typical supply	24 VDC
Accuracy options	±0.075% FS or ±0.1% FS
Protection	IP67
Process connection	Threaded

SG-PRS-165

Protected-head pressure transmitter

Converts process pressure to a current, voltage or serial signal for a control system.



Pressure types	Gauge, absolute or sealed pressure
Output options	4-20 mA, voltage or 4-20 mA plus RS485
Supply	12-32 VDC; 10-32 VDC for 4-20 mA plus RS485
Protection	IP65
Operating temperature	-20 to +85 °C
Accuracy class options	0.2, 0.25 or 0.5
Process connection options	Threaded or sanitary

SG-PRS-166

Monocrystalline-silicon pressure transmitter

Measures gauge or absolute pressure with a local digital display.



Pressure types	Gauge or absolute pressure
Output	4-20 mA, two wires; HART option
Supply	12-42 VDC; 15-42 VDC for HART
Typical supply	24 VDC
Accuracy options	±0.075% FS or ±0.1% FS
Protection	IP67
Process connection	Threaded

SG-PRS-170

Pressure transmitter with four-digit LCD

Pressure measurement for industrial monitoring and control.



Pressure types	Gauge, absolute or sealed pressure
Protection	IP65
Display	Four-digit LCD
Communication	RS485
Supply	17-32 VDC
Operating ambient temperature	-20 to +85 °C
Accuracy class options	0.2, 0.25 or 0.5
Process temperature	-20 to +85 °C
Electrical connection	Hirschmann connector

SG-PRS-171

Battery-powered digital pressure gauge

Local digital indication of gauge or sealed-gauge pressure.



Pressure types	Gauge or sealed-gauge pressure
Power	3 V; two AAA batteries
Protection	IP54
Operating temperature	-10 to +70 °C
Process temperature	-20 to +85 °C
Accuracy class options	0.25 or 0.5
Connection	Threaded; custom options

SG-PRS-172

Industrial Pressure Transmitters

Compact pressure transmitter with DIN connector

Converts process pressure to an electrical signal for monitoring and control.



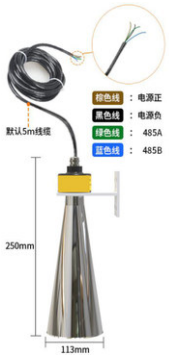
Pressure type options	Gauge, absolute, sealed or negative pressure
Accuracy options	±0.1%, ±0.2% or ±0.5%
Supply	24 VDC; 12-36 VDC range
Output options	4-20 mA, HART, voltage or RS485
Connection options	G1/2, M20 × 1.5 or NPT
Compensated temperature	-10 to +70 °C
Standard operating temperature	-40 to +60 °C

SG-RLT-101

Radar Non-Contact Water Level Transmitter

Radar Level Meter

Non-contact radar measurement of the distance to a water surface.



Measurement	Water-surface distance and water level
Range	0.1-65 m
Accuracy	±1 mm
Radar frequency	77-79 GHz
Beam angle	6°
Interface	RS485
Supply	10-30 VDC
Average power	0.2 W
Protection	IP67
Operating conditions	-40 to +60 °C; non-condensing

SG-RLT-102

Radar Liquid Level Transmitter

Non-contact radar

Radar level measurement for reservoirs, rivers and storage tanks. The horn antenna measures the distance to the liquid surface without immersion.



Measuring principle	26 GHz pulsed radar
Measuring spans	10, 30, 50 or 70 m
Accuracy	±3 mm
Outputs	4-20 mA, 2-wire, or RS485 / Modbus RTU
Power configurations	12 VDC, 24 VDC or 220 VAC; matched to the output version
Process connection	G1½ thread; DN100 support flange option
Display	128 × 64 LCD; 1 mm display resolution
Protection	IP67
Operating temperature	-40 to +85 °C
Medium temperature	-40 to +150 °C
Construction	Aluminium-alloy housing; 304 stainless antenna

Provide an unobstructed path between the antenna and the liquid. Position the instrument clear of tank fittings and structures within the radar beam.

SG-RLT-105

Radar Non-Contact Water Level Transmitter

80 GHz radar level transmitter

Radar level instrument for non-contact liquid or solid measurement.



Radar frequency	80 GHz
Accuracy	Liquid: ±2 mm; solids: ±5 mm
Output options	Two-wire 4-20 mA; four-wire 4-20 mA with RS485
Communication options	RS485 / Modbus or HART
Supply options	15-28 VDC or 220 VAC
Operating temperature	-20 to +60 °C
Protection	IP67
Housing options	Aluminium alloy or stainless steel
Connection options	Thread or flange

SG-RLT-108

Non-contact radar water level sensor

Flat-panel radar water-level measurement with built-in attitude correction.



Water Level Range	10m/30m/45m/80m
Ranging Precision	±3mm
Communication Interface	RS485 / Standard Modbus-RTU Protocol
Baud Rate	9600~115200 bps, default 9600 bps
Attitude Angle	Horizontal angle and roll angle precision ±1°; resolution ±0.1°, built-in vertical angle correction
Operating Voltage	+6~+32 V DC, 12 V DC recommended
Operating Temperature	-30~+70 °C
Product Size	190mm×130mm×50mm

SG-SLT-101

Submersible Level Transmitter

Submersible probe with inlet filter



Configuration	Submersible probe with inlet filter
Measuring range	0-200 m
Output options	4-20 mA, 0-10 V, 0-5 V, 0.5-4.5 V or RS485

SG-SLT-102

Submersible Level Transmitter

Submersible probe with HART



Configuration	Submersible probe with HART
Measuring range	0-200 m
Output options	4-20 mA with HART
Process connection	G1; optional flange

SG-SLT-103

Submersible Level Transmitter

Capillary submersible configuration



Configuration	Capillary submersible configuration
Output options	4-20 mA, 0-10 V or 0-5 V
Process connection	G1; optional flange

SG-SLT-104

Submersible Level Transmitter

Submersible transmitter with RS485



Configuration	Submersible transmitter with RS485
Measuring range	0-200 m
Output options	RS485
Process connection	G1; optional flange

SG-SLT-105

Submersible Level Transmitter

Deep-well submersible probe



Configuration	Deep-well submersible probe
Measuring range	0-2000 m
Output options	4-20 mA

SG-SLT-106

Submersible Level Transmitter

Submersible probe with local display



Configuration	Submersible probe with local display
Measuring range	0-200 m
Output options	4-20 mA or 4-20 mA with RS485
Process connection	G1; optional flange

SG-SLT-107

Submersible Level Transmitter

Integrated submersible probe



Configuration	Integrated submersible probe
Measuring range	0-200 m
Output options	4-20 mA, 0-10 V, 0-5 V, 0.5-4.5 V or RS485

SG-SLT-108

Flanged Hydrostatic Liquid Level Transmitter

Double-flange liquid-level transmitter



Configuration	Double-flange liquid-level transmitter
Measuring range	Full-scale options 6 kPa-4 MPa
Output options	4-20 mA or 4-20 mA with HART
Process connection	DN50 or DN80; configurable

SG-SLT-109

Flanged Hydrostatic Liquid Level Transmitter

Single-flange liquid-level transmitter



Configuration	Single-flange liquid-level transmitter
Measuring range	Full-scale options 6 kPa-10 MPa
Output options	4-20 mA or 4-20 mA with HART
Process connection	DN50 or DN80; configurable

SG-SLT-110

Submersible Hydrostatic Water Level Transmitter

Water level pressure transmitter



Principle	Submersible pressure
Range	5 m; other spans configurable
Supply	10-30 VDC; 24 V typical
Maximum power	0.2 W
Output	RS485
Protection	IP68
Probe diameter	26.8 mm
Long-term stability	±0.2% FS/year

SG-SLT-117

Submersible Liquid Level Transmitter

Submersible, 19 mm probe

Hydrostatic level measurement for wells, reservoirs and water storage. A vented cable provides atmospheric pressure compensation.



Measuring principle	Piezoresistive hydrostatic pressure
Measuring spans	5-300 mH2O for the 19 mm probe; select the required span
Standard accuracy	0.5% FS; 0.25% FS and 0.1% FS options for spans of 2 m or greater
Outputs	4-20 mA, 0-5 V, 0-10 V or RS485, selected by configuration
Supply	10-30 VDC; 24 VDC typical
Probe diameter	19 mm
Wetted construction	316L sensing element; 304 stainless housing, with 316L option
Protection	IP68
Operating temperature	-20 to +85 °C
Overload	1.5 × full scale
Cable	Vented PUR; reinforced cable for ranges of 100 m or more

Keep the vented cable termination dry. Select a cable length that reaches the installation point without placing a joint under water.

SG-SLT-118

Flanged Hydrostatic Liquid Level Transmitter

Single-flange liquid level transmitter

Hydrostatic level measurement with a monocrystalline-silicon sensing element.



Level span	0-10 m; custom spans available
Accuracy options	±0.075% or ±0.1%
Output	4-20 mA; HART option
Supply	12-42 VDC for 4-20 mA; 15-42 VDC with HART
Medium temperature	-40 to +100 °C
Ambient temperature	-40 to +85 °C
Protection	IP67
Material	304 stainless steel; material options
Connection	Flange

SG-SLT-119

Hydrostatic Liquid Level Transmitter

Dual-flange liquid level transmitter

Hydrostatic level measurement with a monocrystalline-silicon sensing element.



Level span	0-10 m and greater, selected by configuration
Accuracy options	±0.075% or ±0.1%
Output	4-20 mA; HART option
Supply	12-42 VDC for 4-20 mA; 15-42 VDC with HART
Medium temperature	-40 to +100 °C
Ambient temperature	-40 to +85 °C
Protection	IP67
Material	304 stainless steel; material options
Connection	Flange

SG-SLT-120

Hydrostatic and Submersible Water Level Transmitter

Digital submersible level transmitter

Submersible hydrostatic probe supplied with a separate local display housing.



Measuring spans	0-1 m to 0-200 m water column
Accuracy	±0.5%
Output options	4-20 mA or voltage; RS485
Supply	10-30 VDC for 4-20 mA; 12-30 VDC for 0-10 V; 8-30 VDC for RS485
Medium / ambient temperature	-10 to +65 °C
Protection	Probe IP68; junction box IP65
Wetted materials	316 stainless diaphragm; 316L stainless housing
Cable	Polyurethane

SG-SLT-121

Hydrostatic and Submersible Water Level Transmitter

Submersible level transmitter

Submersible hydrostatic level probe for water-column measurement.



Measuring spans	0-1 m to 0-200 m water column
Accuracy	±0.5%
Output options	4-20 mA or voltage
Supply	10-30 VDC for 4-20 mA; 12-30 VDC for 0-10 V
Medium / ambient temperature	-10 to +65 °C
Protection	Probe IP68; junction box IP65
Wetted materials	316 stainless diaphragm; 316L stainless housing
Cable	Polyurethane

SG-ULT-101

Non-Contact Ultrasonic Liquid Level Sensor

Solar-powered through-wall ultrasonic level sensor

Measures liquid level through the container wall without contacting the liquid.



Principle	Ultrasonic through-wall level measurement
Measuring range	20-2,000 mm
Accuracy	±(5 + S × 0.5%) mm, where S is the measured distance in mm
Sensor cable	25 cm
Power	Solar panel with lithium-ion battery

SG-ULT-102

Ultrasonic Liquid Level Transmitter

Ultrasonic transmitter with local display

Non-contact distance and level measurement for tanks, channels and open water. The local LCD provides readings and menu settings at the instrument.



Measuring principle	Ultrasonic time of flight
Measuring spans	5, 10, 15, 20 or 30 m
Accuracy	0.5-1%
Resolution	±3 mm or 0.1% FS, whichever is greater
Outputs	2-wire or 4-wire 4-20 mA; 4-wire RS485 option
Supply	24 VDC or 220 VAC; 12 VDC for RS485 version
Default blind zone	300 mm for 5 m; 400 mm for 10 m; 500 mm for 20 m range
Display	English LCD with menu setting
Protection	Probe IP68; display unit IP66
Operating temperature	Probe: -20 to +80 °C; display: -20 to +60 °C
Power consumption	2-wire: 0.48 W; 4-wire without relay: 1.9 W

Allow for the blind zone above the highest liquid level. Mount perpendicular to the surface and clear of obstructions. Relay versions are a separate configuration.

SG-ULT-103

Ultrasonic Non-Contact Level Transmitter

Remote ultrasonic level transmitter

Separate display unit and ultrasonic probe for non-contact level measurement.



Span options	0-5, 0-10 or 0-15 m
Accuracy options	±0.3% FS or ±0.5% FS
Output	Four-wire 4-20 mA
Supply options	100-240 VAC, 50/60 Hz; 18-28 VDC
Power	5 W maximum
Display-unit temperature	-20 to +60 °C
Probe temperature	-20 to +80 °C
Protection	IP68
Mounting options	Flange, thread or gantry frame

SG-ULT-104

Ultrasonic Non-Contact Level Transmitter

Integrated ultrasonic level transmitter

Non-contact ultrasonic instrument with an integrated display housing.



Span options	Standard: 0-5 or 0-10 m; corrosion-resistant version: 0-5, 0-10 or 0-15 m
Accuracy options	±0.3% FS or ±0.5% FS
Blind zone	0.3-0.6 m, selected by span and construction
Display	2-inch monochrome LCD, 128 × 64
Output	4-20 mA
Communication	Isolated RS485 / Modbus RTU
Supply	18-28 VDC
Process pressure	0.3 MPa
Protection	Instrument IP65; probe IP68
Operating temperature	Instrument: -20 to +60 °C; probe: -20 to +80 °C

SG-ULT-105

Non-Contact Ultrasonic Level Meter

Compact ultrasonic level transmitter

Non-contact liquid depth measurement with automatic temperature compensation.



Measuring principle	Ultrasonic, 40 kHz
Resolution	1 mm
Output	4-20 mA
Communication	RS485 option
Supply options	220 VAC or 24 VDC
Blind area	0.2-0.9 m, by range configuration
Ambient temperature	-20 to +55 °C
Protection	Transmitter IP65; probe IP68

SG-PRS-175

Industrial Process Pressure Transmitter

No-display transmitter with DIN43650 connector



Configuration	No-display transmitter with DIN43650 connector
Electrical connection	DIN43650
Display	No display
Pressure reference options	Gauge, absolute or sealed gauge
Output options	4-20 mA, 0-5 V, 0-10 V or 0.5-4.5 V

SG-SLT-116

Wired RS485 Submersible Level Transmitter

Wired submersible level transmitter

Measures liquid level with a submersible probe and wired interface.



Measuring range	0-5 m
Accuracy	+/-0.5% of span
Communication	Isolated RS485 Modbus
Power supply	9-28 V DC

SG-SLT-123

Intelligent Submersible Level Transmitter

Cable-outlet submersible probe



Configuration	Cable-outlet submersible probe
Measuring medium	Water
Measuring range options	1-20 m water depth
Electrical connection	Cable outlet
Probe material options	SS304 or SS316L
Output options	4-20 mA or RS485

SG-EMF-102

Electromagnetic Flow Meter, Integrated and Remote

Integrated electromagnetic meter



Configuration	Integrated electromagnetic meter
Process connection	Flanged
Principle	Electromagnetic
Measured quantity	Conductive-liquid volume flow

SG-EMF-103

Electromagnetic Flow Meter, Integrated and Remote

Remote electromagnetic meter



Configuration	Remote electromagnetic meter
Process connection	Flanged sensor; separate converter
Principle	Electromagnetic
Measured quantity	Conductive-liquid volume flow

SG-EMF-106

Electromagnetic flow meter, inline and sanitary

Inline electromagnetic flow meter

Measures the flow of conductive liquids using an electromagnetic measuring tube.



Bore options	DN10-DN2000
Accuracy	±0.5%
Output options	4-20 mA or pulse / frequency
Communication	RS485
Supply options	220 VAC, 24 VDC or low-power 12 VDC
Protection	Compact unit IP65; remote transmitter IP65, sensor IP65 / IP68
Medium conductivity	Water: at least 20 µS/cm; other liquids: at least 5 µS/cm

SG-EMF-107

Electromagnetic flow meter, inline and sanitary

Electromagnetic flow meter

Flanged electromagnetic meter with local display and digital communication.



Bore options	DN15-DN300
Accuracy	±0.5%
Output options	4-20 mA, pulse and RS485
Communication	Modbus; HART option
Supply options	100-230 VAC, 50/60 Hz; 20-28 VDC
Protection	IP67
Connection	Flanged

SG-EMF-109

Electromagnetic flow meter for conductive liquids

Flanged electromagnetic meter

Measures conductive liquids without moving parts, for water distribution and industrial process lines.



Measuring principle	Electromagnetic
Flow direction	Forward and reverse
Velocity	0.3-10 m/s
Accuracy options	±0.5% or ±0.2% of rate
Repeatability	±0.1%
Ambient temperature	-20 to +60 °C
Power consumption	Less than 20 W

SG-EMF-110

Electromagnetic flow meter for conductive liquids

Electromagnetic, compact or remote display

Inline measurement of electrically conductive liquids in water supply, wastewater and process pipework. Liner and electrode materials are selected for the liquid.



Measuring principle	Electromagnetic; bidirectional flow
Bore options	PTFE: DN2.5-DN2000; rubber: DN50-DN3000
Standard flow velocity	0.3-6 m/s; higher-velocity configuration available up to 10 m/s
Accuracy options	±0.5% or ±0.2% of reading
Repeatability	±0.1%
Outputs	4-20 mA / pulse; Modbus RS485 or HART communication options
Supply	110-240 VAC or 24 VDC nominal, 20-36 VDC input
Medium temperature	Rubber: -20 to +60 °C; PTFE: -20 to +120 °C
Electrode options	316L stainless, titanium, tantalum, Hastelloy C and other material options
Protection	IP65 or IP67; IP68 sensor option for remote construction
Ambient temperature	-20 to +60 °C

Keep the measuring tube full. Define bore, liquid conductivity, liner, electrode, flange and grounding arrangement before selecting the meter.

SG-FLW-102

Vortex Flow Meter

Flanged vortex meter

Vortex flow measurement for steam, gas and low-viscosity liquids.



Measuring principle	Kármán vortex shedding
Media	Superheated steam, saturated steam, gas and low-viscosity liquids
Process connection	Flanged
Detection	Piezoelectric sensing element

SG-FLW-103

Turbine Flow Meter

Flanged turbine meter



Configuration	Flanged turbine meter
Process connection	Flanged
Principle	Turbine rotor with electrical pulse detection
Application	Liquid flow in closed pipes

SG-FLW-104

Thermal gas mass flow meter

Insertion thermal gas mass flow meter

Insertion probe for measuring common stable gases by thermal dispersion.



Measuring medium	Common stable gases; excludes acetylene and boron trichloride
Velocity range	0.1-100 Nm/s
Accuracy	±2.5%
Sensor temperature	-40 to +300 °C
Converter temperature	-20 to +45 °C
Signal outputs	4-20 mA and pulse
Communication	Optically isolated RS485
Supply	220 VAC or 24 VDC
Protection	IP65

SG-FLW-105

Thermal Flow Switch and Flow Sensor

Thermal flow switch with LED indication

Monitors flow presence, changes and interruption in cooling, hydraulic and lubrication systems.



Measuring principle	Thermal
Moving parts	None
Indication	Six LEDs show flow status
Setpoint	Adjustable
Output options	Relay, analogue or combined switching output
Media	Liquids and gases

SG-FLW-106

Oval Gear Flow Meter

Mechanical oval-gear meter

Positive-displacement volume measurement for fuels and other viscous liquids.



Measuring principle	Oval gear
Display	Mechanical cumulative counter
Accuracy options	±0.2% or ±0.5% of rate
Material options	Cast iron, cast steel, SS304 or SS316
Connection options	Flanged; threaded on stainless-steel versions
Installation	No straight pipe run required

SG-FLW-107

Positive-Displacement Rotor Flow Meter

Rotary gas meter with electronic volume corrector

Positive-displacement gas metering for continuous measurement in gas pipelines.



Nominal diameter options	DN25-DN200
Accuracy	±1.5% of reading
Body and converter	Cast aluminium
Rotor	Aluminium alloy
Fluid temperature	-20 to +80 °C
Ambient temperature	-20 to +60 °C
Communication	RS485
Protection	IP65

SG-FLW-108

Vortex Flow Meter

Inline vortex meter

Vortex flow measurement for steam, gases and liquids in industrial process lines.



Measuring principle	Vortex
Body material options	SS304 or SS316
Outputs	4-20 mA or pulse
Communication	RS485 or HART
Ambient temperature	-10 to +50 °C
Connection options	Flange, wafer, thread or tri-clamp
Supply options	24 VDC or battery

SG-FLW-109

Swirl (Vortex Precession) Flow Meter

Flanged swirl meter

Combines gas flow, temperature and pressure measurement in a single inline instrument.



Measuring principle	Swirl
Accuracy options	±1.5% or ±1.0% of rate
Fluid temperature	-20 to +80 °C
Ambient temperature	-30 to +65 °C
Supply options	24 VDC ±15% or 3.6 V lithium battery
Outputs	4-20 mA, pulse or RS485
Protection	IP65

SG-FLW-110

Liquid Turbine Flow Meter

Flanged liquid turbine meter

Turbine flow measurement for clean water, light oils and other clean liquids.



Outputs	Pulse or 4-20 mA
Communication	RS485
Accuracy options	±1.0% or ±0.5% of rate
Fluid temperature	-20 to +150 °C
Ambient temperature	-20 to +60 °C
Body material options	SS304 or SS316
Protection	IP65

SG-FLW-111

Gas Turbine Flow Meter

Gas turbine meter with round display

Turbine flow measurement for natural gas and industrial gas systems.



Nominal diameter options	DN25-DN400
Accuracy options	±1.0% or ±1.5% of rate
Fluid temperature	-30 to +80 °C
Ambient temperature	-20 to +60 °C
Supply options	24 VDC or 3.6 V battery
Outputs	Pulse or 4-20 mA
Protection	IP65

SG-FLW-112

Coriolis Mass Flow Meter

Coriolis meter, V-type body

Direct mass-flow measurement for liquids and gases, with density measurement and batch-control applications.



Measuring principle	Coriolis
Tube material options	316L stainless steel or Hastelloy C
Output options	4-20 mA or pulse
Communication options	RS485, HART, Profibus DP or FF
Accuracy options	±0.1%, ±0.2% or ±0.5%
Liquid repeatability	≤0.05%
Protection options	IP67 or IP68

SG-FLW-113

Gear Flow Meter

Thread-connected gear flow transmitter

Measures liquid volume and instantaneous flow by the rotation of intermeshing gears.



Measuring principle	Volumetric gear displacement
Fluid temperature	-15 to +80 °C
Accuracy	±0.5% at 1:10 range; ±1.0% at 1:100 range
Body material options	Aluminium alloy or stainless steel
Applications	Hydraulic and lubricating oils, resins, adhesives and fuels
Process connection shown	Threaded

SG-FLW-114

Thermal Mass Flow Meter

Thread-connected thermal gas meter

Thermal-dispersion measurement of gas mass flow, including compressed air and natural gas.



Measuring medium	Gases except acetylene
Velocity range	0.1-100 Nm/s
Accuracy options	±1.0% or ±2.5%
Sensor temperature	-40 to +200 °C
Transmitter temperature	-20 to +45 °C
Outputs	4-20 mA or pulse
Communication	RS485 or HART
Protection	IP65

SG-OCF-104

Non-Contact Radar Surface Velocity Sensor

Radar measurement of water surface velocity from above the channel.

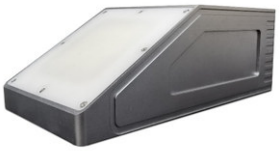


Velocity range	0.1-20 m/s, dependent on flow conditions
Accuracy	±1% FS
Resolution	0.01 m/s
Supply	7-28 VDC; 12 V recommended
Output	RS485 / Modbus RTU
Operating temperature	-40 to +85 °C
Protection	IP68
Cable	5 m standard; other lengths configurable

SG-OCF-105

Radar Open-Channel Flow Meter

Radar surface-velocity and level measurement for calculating open-channel flow.



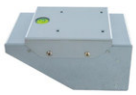
Surface velocity	0.03-20 m/s, dependent on flow conditions
Level distance	0.4-40 m
Velocity accuracy	±1% FS
Level accuracy	±3 mm
Output	RS485 / Modbus RTU
Supply	6-30 VDC
Protection	IP68
Operating temperature	-40 to +85 °C

SG-OCF-106

Non-contact radar open-channel flow meter

Radar surface velocity and level

Non-contact radar measurement of water velocity and level for channel-flow monitoring.



Surface velocity	0.1-20 m/s
Distance range	0.1-40 m
Velocity accuracy	±0.01 m/s or ±1% FS
Velocity resolution	0.001 m/s
Output	RS485 / Modbus RTU
Supply	10-16 VDC
Protection	IP68
Operating temperature	-30 to +80 °C
Housing	Stainless steel

SG-USF-104

Ultrasonic Flow Meters

Wall-mount ultrasonic meter with clamp-on probes



Configuration	Wall-mount ultrasonic meter with clamp-on probes
Principle	Ultrasonic liquid-flow measurement
Mounting	Fixed installation

SG-USF-105

Ultrasonic Flow Meters

Fixed-mount ultrasonic meter



Configuration	Fixed-mount ultrasonic meter
Principle	Ultrasonic liquid-flow measurement
Mounting	Fixed installation

SG-USF-106

Ultrasonic Flow Meters

Handheld ultrasonic meter with clamp-on probes



Configuration	Handheld ultrasonic meter with clamp-on probes
Principle	Ultrasonic liquid-flow measurement
Mounting	Portable

SG-USF-107

Ultrasonic Flow Meters

Ultrasonic transmitter module



Configuration	Ultrasonic transmitter module
Principle	Ultrasonic liquid-flow measurement
Mounting	Fixed installation

SG-USF-108

Ultrasonic Flow Meters

Wall-mount ultrasonic meter with pipe-section sensor



Configuration	Wall-mount ultrasonic meter with pipe-section sensor
Principle	Ultrasonic liquid-flow measurement
Mounting	Fixed installation

SG-USF-109

Ultrasonic Flow Meter (Clamp-On / Insertion / Portable)

Wall-mounted clamp-on ultrasonic meter

Transit-time flow measurement using external transducers on existing pipelines.



Pipe diameter	25-1200 mm
Accuracy	±1% of measured value
Pipe materials	Carbon steel, stainless steel or PVC
Outputs	4-20 mA and 0-5000 Hz pulse
Communication	RS485 / Modbus
Supply	10-36 VDC, 1 A
Transmitter protection	IP65
Transducer protection	IP68
Standard transducer cable	9 m

SG-USF-110

Ultrasonic Flow Meter (Clamp-On / Insertion / Portable)

Wall-mounted, standard clamp-on transducers

Permanent ultrasonic flow monitoring with external transducers. The measuring set is selected for the pipe diameter, wall material and liquid conditions.



Measuring principle	Transit-time ultrasonic
Pipe diameter with standard transducers	DN25-DN5000
Velocity range	±0.01 to ±12 m/s
Accuracy	±0.5% of measured value at 0.5-12 m/s
Repeatability	0.15%
Outputs / communication	4-20 mA, OCT pulse, relay, RS232 and RS485; HART option
Supply	10-36 VDC or 90-245 VAC
Data storage	32 GB SD card
Protection	Transmitter IP65; transducers IP68
Operating temperature	Transmitter: -20 to +60 °C; standard transducers: -40 to +80 °C
Transducer cable	9 m standard; longer cable options

Choose a full pipe with suitable straight runs. Enter the pipe outside diameter, wall thickness and material, then position the transducers at the calculated spacing.

SG-USF-112

Ultrasonic Flow Meter (Clamp-On / Insertion / Portable)

Handheld clamp-on ultrasonic meter

Portable transit-time flow measurement for surveys and checks on existing pipes.



Pipe diameter	25-1200 mm
Accuracy	±1% of measured value
Output	4-20 mA, maximum 750 Ω load
Storage	1 GB SD card; up to 512 files
Logging interval	5-60 seconds
Power	11.1 V rechargeable lithium battery
Display	3.5 inch, 320 × 240 pixels
Protection	Handheld unit IP54; transducers IP68

SG-USF-113

Ultrasonic Flow Meter (Clamp-On / Insertion / Portable)

Portable, standard clamp-on transducers

Portable ultrasonic flow measurement for surveys, commissioning and temporary checks. Rechargeable operation allows the meter to move between measurement points.



Measuring principle	Transit-time ultrasonic
Pipe diameter with standard transducers	DN25-DN1200
Velocity range	±0.01 to ±12 m/s
Reference accuracy	±1.0% at 0.5-5 m/s
Repeatability	0.2%
Outputs	RS485 and 4-20 mA
Power	Rechargeable 3,000 mAh lithium battery
Data storage	32 GB SD card
Protection	Meter IP54; transducers IP68
Operating temperature	Meter: -20 to +60 °C; standard transducers: -40 to +80 °C
Reference cable	5 m transducer cable

Use acoustic coupling at both transducers and verify the received signal before taking a reading. The standard transducer set covers DN25-DN1200; small-pipe transducers are a separate option.

SG-WQA-101

Multi-Parameter Water Quality Transmitter

Water quality transmitter; external probes selected separately

Connects water quality probes for wastewater, environmental water and treatment monitoring.



Probe support	Conductivity, pH, dissolved oxygen, ORP and turbidity
Probe connections	One to three
Probe protection	IP68
Configuration	Bluetooth 5.1
Firmware updates	Wireless over the air
Battery	8,500 mAh Li-SOCl2

SG-WQA-104

Conductivity, TDS and resistivity controller

Panel controller for a matching conductivity electrode, with isolated analogue output.



Measurements	Conductivity, TDS, resistivity and temperature
Display	2.8-inch LCD
Analogue output	Isolated 4-20 mA; maximum load 750 Ω
Communication	RS485
Alarm outputs	Two SPDT relays; 250 VAC, 3 A
Supply options	220 VAC ±10%, 50/60 Hz; 24 VDC ±10%
Operating temperature	0 to +60 °C
Dimensions	100 × 100 × 150 mm
Panel cutout	92.5 × 92.5 mm

SG-WQA-105

pH / ORP controller

Panel controller for continuous pH or oxidation-reduction potential measurement.



Measuring ranges	0-14 pH; -2,000 to +2,000 mV ORP
Display	2.8-inch LCD
Analogue output	Isolated 4-20 mA; maximum load 750 Ω
Communication	RS485
Alarm outputs	Two dry-contact relays; 250 VAC, 3 A
Supply options	110 or 220 VAC ±10%, 50/60 Hz; 24 VDC ±10%
Protection options	IP54 or IP65
Dimensions	100 × 100 × 150 mm
Panel cutout	92.5 × 92.5 mm

SG-WQA-106

Universal digital water-quality controller

Connects compatible digital electrodes for water-quality monitoring and alarm control.



Sensor parameters	pH, ORP, dissolved oxygen, conductivity, turbidity and sludge concentration; selected by electrode
Display	2.8-inch LCD
Analogue output	Isolated 4-20 mA; maximum load 500 Ω
Communication	RS485
Alarm outputs	Two SPDT relays; 250 VAC, 3 A
Temperature compensation	Manual or automatic
Dimensions	100 × 100 × 150 mm
Panel cutout	92.5 × 92.5 mm

SG-WQA-107

Dual-channel water-quality controller

Two-channel controller for analogue and digital water-quality sensors.



Channels	Two; channel 1 accepts analogue pH / conductivity or digital sensors; channel 2 accepts digital sensors
Display	4.3-inch colour LCD
Analogue outputs	Two isolated 0/4-20 mA outputs; maximum load 750 Ω
Communication	RS485 / Modbus
Relays	Three SPST; two alarms and one cleaning control; 250 VAC, 5 A
Supply options	85-265 VAC, 50/60 Hz; 21.6-26.4 VDC
Power consumption	28 W maximum
Protection	IP66
Operating temperature	0 to +60 °C

SG-WQA-108

Chemical oxygen demand analyzer

Cabinet instrument for automatic online chemical oxygen demand analysis.



Measurement	Chemical oxygen demand
Method	Potassium dichromate digestion and spectrophotometry
Range options	0-200, 0-500 or 0-2,000 mg/L
Detection limit	At or below 15 mg/L
Resolution	0.01 mg/L
Digital interfaces	RS232, RS485 and RJ45
Analogue signal	4-20 mA input / output
Supply	220 VAC ±10%, 50 Hz ±5%
Operating temperature	+5 to +40 °C

SG-WQA-109

Permanganate index analyzer

Cabinet instrument for automatic online permanganate index analysis.



Measurement	Permanganate index
Method	Potassium permanganate digestion and spectrophotometry
Range options	0-10, 0-20 or 0-50 mg/L
Detection limit	At or below 0.15 mg/L
Resolution	0.001 mg/L
Digital interfaces	RS232, RS485 and RJ45
Analogue signal	4-20 mA input / output
Supply	220 VAC ±10%, 50 Hz ±5%
Operating temperature	+5 to +40 °C

SG-WQA-110

Ammonia nitrogen analyzer

Cabinet instrument for automatic online ammonia nitrogen analysis.



Measurement	Ammonia nitrogen
Method	Salicylic-acid spectrophotometry
Range options	0-2, 0-5 or 0-50 mg/L
Detection limit	At or below 0.15 mg/L
Resolution	0.001 mg/L
Digital interfaces	RS232, RS485 and RJ45
Analogue signal	4-20 mA input / output
Supply	220 VAC ±10%, 50 Hz ±5%
Operating temperature	+5 to +40 °C

SG-WQA-111

Total nitrogen analyzer

Cabinet instrument for automatic online total nitrogen analysis.



Measurement	Total nitrogen
Method	Persulfate oxidation and UV spectrophotometry
Range options	0-4, 0-20 or 0-50 mg/L
Detection limit	At or below 0.05 mg/L
Resolution	0.001 mg/L
Digital interfaces	RS232, RS485 and RJ45
Analogue signal	4-20 mA input / output
Supply	220 VAC ±10%, 50 Hz ±5%
Operating temperature	+5 to +40 °C

SG-WQA-112

Total phosphorus analyzer

Cabinet instrument for automatic online total phosphorus analysis.



Measurement	Total phosphorus
Method	Ammonium molybdate spectrophotometry
Range options	0-1, 0-2 or 0-5 mg/L
Detection limit	At or below 0.15 mg/L
Resolution	0.001 mg/L
Digital interfaces	RS232, RS485 and RJ45
Analogue signal	4-20 mA input / output
Supply	220 VAC ±10%, 50 Hz ±5%
Operating temperature	+5 to +40 °C

SG-WQA-113

Online Water Quality Monitoring Station

Cabinet water-quality monitoring station

Integrated cabinet for automatic sampling, water conditioning, measurement and local data storage.



Parameter selection	Up to 11 monitoring parameters
Water-quality options	Permanganate index, COD, ammonia nitrogen, total phosphorus, total nitrogen, pH, temperature, dissolved oxygen, conductivity and turbidity
Functions	Water sampling and conditioning, measurement and data acquisition
Maintenance functions	Automatic cleaning and system self-check
Local functions	Data storage and touch-panel display
Remote functions	Cloud upload and remote access, selected by configuration

SG-WQA-117

Residual chlorine analyzer

Online residual-chlorine measurement with an integrated flow-cell assembly.



Measuring range	0-5 mg/L
Display	7-inch touchscreen
Supply	220 VAC
Operating temperature	0 to +40 °C
Humidity	Up to 95% RH, non-condensing
Flow-cell velocity	At least 0.03 m/s
Protection	IP43

SG-WQE-101

Dissolved Oxygen Sensor

Immersed dissolved-oxygen measurement for water-quality monitoring.



Measured quantity	Dissolved oxygen
DO range	0-20 mg/L
Outputs	RS485 and 4-20 mA
Supply	7-30 VDC
Protection	IP68
Cable	5 m standard; other lengths configurable

SG-WQE-102

ORP (Redox Potential) Electrode

Platinum-ring electrode for online oxidation-reduction potential measurement.



Measurement principle	Electrochemical(platinum ring)
Range	-1,500 to +1,500 mV
Resolution	0.1 mV
Accuracy	±1 mV
Supply	7-30 VDC
Response time	5 s (90%); 14 s (98%)
Output	4-20 mA & RS485 at the same time
Power consumption	<0.4 W
Ingress protection	IP68
Cable length	5m default, customizable

SG-WQE-103

Online Turbidity Sensor

Standard freshwater turbidity probe

Optical turbidity measurement for general freshwater monitoring. A stainless probe measures scattered infrared light and supplies readings to a controller or RTU.



Measuring principle	90° scattered infrared light; 860 nm
Measuring spans	0-10, 0-100, 0-1,000 or 0-4,000 NTU
Accuracy	±1% FS for the standard freshwater probe
Resolution	0.01 NTU at 10 NTU or below; 0.1 NTU above 10 NTU
Outputs	4-20 mA and RS485 simultaneously
Supply	7-30 VDC
Power consumption	Less than 0.2 W
Response time	1 s
Probe material	316L stainless steel
Protection	IP68
Cable	5 m standard

Keep the optical windows clean and leave at least 58 mm clearance from nearby surfaces. A separate brush-cleaning version is available for applications that need it.

SG-WQE-104

Multi-parameter water quality sonde

Configurable submerged sonde

Configurable multi-parameter water-quality sonde with automatic probe cleaning.



Configuration	Up to 7 parameters including temperature
Selectable probes	DO, COD, pH, ORP, EC/salinity, ammonium and turbidity
Output	RS485 / Modbus RTU
Cleaning	Automatic cleaning with configurable interval and cycles
Supply	12 VDC ±5%
Power consumption	5 W at 12 V
Installation	Submerged
Housing	POM standard; 316L option
Cable	5 m standard

SG-WQE-105

pH Electrode with Temperature Compensation

Glass electrode, direct cable

Continuous pH measurement for water and nutrient solutions. The glass electrode is paired with signal conversion for connection to a monitoring instrument or RTU.



Measurement	0-14 pH
Resolution	0.01 pH
Specified accuracy	0.01 pH
Reference electrode construction	Glass, PC and ABS
Operating temperature	0 to +80 °C for the glass, direct-cable version
Working pressure	0.8 MPa for the glass, direct-cable version
Electrical connection	Direct cable
Electrode dimensions	12 mm diameter × 170 mm
Temperature compensation	Thermal-resistance compensation
Signal conversion	RS485 and 4-20 mA with matching transmitter
Transmitter supply	7-30 VDC; less than 0.15 W
Protection	IP68

Use calibration solutions appropriate to the measurement range and keep the sensing surface clean. Select an electrode material and temperature rating suitable for the liquid.

SG-WQE-106

Online Conductivity, Salinity and TDS Sensor

Conductivity probe, graphite electrode

Online conductivity measurement for water-source, aquaculture and wastewater monitoring. The selected measuring span sets the full-scale output.



EC measuring spans	0-2,000; 0-5,000; 0-10,000; or 0-20,000 µS/cm
Accuracy	±1% FS
Resolution	0.01 mS/cm
Outputs	4-20 mA and RS485 simultaneously
Supply	7-30 VDC
Power consumption	Less than 0.2 W
Measurement temperature	0 to +60 °C
Response time	1 s
Protection	IP68
Cable	5 m standard
Construction shown	Graphite electrode with polymer housing

Keep the conductivity cell immersed and free of trapped bubbles. Allow access for cleaning. Electrode construction and measuring span are selected for the water chemistry.

SG-WQE-107

Ammonium Ion (NH4+) Water Quality Electrode

Ammonium-ion measurement for online water-quality monitoring.



Range	0-10 ppm,0-100 ppm
Accuracy	±5% FS
Resolution	0.1 mg/L
Supply	7-30 VDC
Output	4-20 mA&RS485(Modbus-RTU)
Power consumption	<0.5 W
Operating temperature	0-55 °C
Ingress protection	IP68
Cable length	5m default, customizable

SG-WQE-108

UV Absorbance COD Water-Quality Probe

Dual-wavelength ultraviolet absorption measurement of chemical oxygen demand.



Measurement principle	Dual wavelength 254nm and 550nm absorption method
Accuracy	±5%F.S
Resolution	0.02 mg/L
Supply	12-30 VDC
Response time	<2 s
Output signal	4-20 mA&RS485
Cable length	5m(default), customizable
Ingress protection	IP68

SG-WQE-109

Online Residual Chlorine Sensor

Online residual-chlorine measurement with analog and digital output.



Range	0-2 ppm ,0-5 ppm(typ.) ,0-10 ppm
Working Temperature	0-50 °C
Accuracy	±5% FS
Resolution	0.01 ppm
Power consumption	<0.5 W
Output	4-20 mA&RS485(Modbus-RTU)
Main material	ABS
Protection class	IP68
Cable length	5m(default) , customizable
Baud rate	9600 bps

SG-WQE-110

Sludge Concentration Electrode

Measures suspended sludge concentration in water.



Electrode type	Sludge Concentration Electrode
Measuring range	(0-15000)mg/L
Operating temperature	0-50 °C(non-freezing)
Accuracy	±5% or ±20 mg/L, whichever is greater

SG-WQE-111

Low Turbidity Electrode

Low-turbidity measurement for water-treatment monitoring.



Electrode type	Low Turbidity Electrode
Measuring range	(0-10)NTU
Operating temperature	0-50 °C(non-freezing)
Accuracy	0.01 NTU or ±2%, whichever is greater

SG-WQE-112

Turbidity Electrode

Turbidity measurement for water-quality monitoring.



Electrode type	Turbidity Electrode
Measuring range	(0.1-1000)NTU
Operating temperature	0-50 °C(non-freezing)
Accuracy	<5% or 0.3 NTU, whichever is greater

SG-WQE-113

pH Plastic Electrode

pH electrode for online water-quality measurement.



Electrode type	pH Plastic Electrode
Measuring range	0-14 pH
Temperature range	0-60 °C
Pressure resistance	≤0.3 MPa
Process thread	NPT 3/4"
Housing material	Nylon 66 Reinforced with Glass Fiber

SG-WQE-114

pH Glass Electrode

pH electrode for online water-quality measurement.



Electrode type	pH Glass Electrode
Measuring range	0-13 pH
Temperature range	0-100 °C
Pressure resistance	≤ 0.6 MPa (Customizable, up to 1 MPa Maximum)
Process thread	Pg13.5
Housing material	Glass

SG-WQE-115

Optical Dissolved Oxygen Sensor

Optical dissolved-oxygen measurement in water.



Measurement	Optical dissolved oxygen
DO range	0-20 mg/L or 0-200% saturation
Temperature measuring range	0 to +50 °C
Operating temperature	0 to +45 °C, non-freezing
DO accuracy	±0.3 mg/L
Temperature accuracy	±0.2 °C

SG-WQE-116

ORP Glass Electrode

ORP electrode for online oxidation-reduction monitoring.



Electrode type	ORP Glass Electrode
Measuring range	±1999 mV
Temperature range	5-60 °C
Pressure resistance	≤0.4 MPa
Process thread	Pg13.5
Housing material	Glass

SG-WQE-117

ORP Plastic Electrode

ORP electrode for online oxidation-reduction monitoring.



Electrode type	ORP Plastic Electrode
Measuring range	-2000-2000 mV
Temperature range	0-80 °C
Pressure resistance	≤0.6 MPa
Process thread	NPT 3/4"
Housing material	PPS

SG-WQE-118

ORP Digital Electrode

ORP electrode for online oxidation-reduction monitoring.



Electrode type	Digital ORP electrode
Measuring range	-1,000 to +1,000 mV
Operating temperature	0 to +60 °C
Temperature accuracy	0.5 °C
ORP accuracy	0.2 mV

SG-WQE-119

pH PTFE Electrode

pH electrode for online water-quality measurement.



Electrode type	pH PTFE Electrode
Measuring range	0-14 pH
Temperature range	0-80 °C
Pressure resistance	≤0.3 MPa
Process thread	NPT 3/4"
Housing material	PTFE

SG-WQE-120

pH Glass Electrode

pH electrode for online water-quality measurement.



Electrode type	pH Glass Electrode
Measuring range	0-14 pH
Temperature range	0-135 °C
Pressure resistance	≤1.0 MPa
Process thread	Pg13.5
Housing material	Glass

SG-WQE-121

pH Glass Electrode

pH electrode for online water-quality measurement.



Electrode type	pH Glass Electrode
Measuring range	0-14 pH
Temperature range	0-100 °C
Pressure resistance	≤0.6 MPa
Process thread	Pg13.5
Housing material	Glass

SG-WQE-122

pH Flat Electrode

pH electrode for online water-quality measurement.



Electrode type	pH Flat Electrode
Measuring range	0-14 pH
Temperature range	0-80 °C
Pressure resistance	≤0.2 MPa
Process thread	NPT 3/4"
Housing material	PPS

SG-WQE-123

pH Pure Water Electrode

pH electrode for online water-quality measurement.



Electrode type	pH Pure Water Electrode
Measuring range	2-12 pH
Temperature range	5-80 °C
Pressure resistance	≤0.6 MPa
Process thread	NPT 3/4"
Housing material	PPS

SG-WQE-124

pH Digital Electrode

pH electrode for online water-quality measurement.



Electrode type	Digital pH electrode
Measuring range	0-14 pH
Operating temperature	0 to +60 °C
pH accuracy	0.02 pH
Temperature accuracy	0.5 °C

SG-WQE-125

Conductivity Stainless Steel Electrode

Conductivity measurement for online water-quality monitoring.



Electrode type	Stainless-steel conductivity electrode
EC span options	0.01-20, 0.1-200 or 1-2,000 µS/cm
Temperature range	0 to +50 °C
Pressure limit	5 bar for cell constants 0.01 or 0.1; 7 bar for cell constant 1.0
Process thread options	G 3/4 or NPT 3/4
Housing material options	304 or 316 stainless steel

SG-WQE-126

Graphite conductivity electrode

Conductivity measurement for online water-quality monitoring.



Electrode type	Graphite conductivity electrode
EC range	0.1 µS/cm to 70 mS/cm
Temperature range	0 to +80 °C
Pressure limit	3 bar
Process thread	G 3/4; NPT 3/4 option
Construction	PPS, POM and graphite

SG-WQE-127

Conductivity Digital Electrode

Conductivity measurement for online water-quality monitoring.



Electrode type	Digital conductivity electrode
EC ranges	0-9,999 µS/cm; 10.00-70.00 mS/cm
TDS range	0-9,999 ppm
Salinity range	0-40.00 ppt
Operating temperature	0 to +60 °C
Accuracy	±2.5%

SG-WQE-128

Conductivity Four-electrode Digital Sensor

Conductivity measurement for online water-quality monitoring.



Electrode type	Four-electrode digital conductivity sensor
EC range options	100-60,000 µS/cm; 0.1-500.00 mS/cm
TDS range	0-9,999 ppm
Salinity range	0-100.00 ppt
Operating temperature	0 to +60 °C
Accuracy	1.5% FS

SG-WQE-130

In-Situ UV-Vis Spectral Water Quality Probe

Immersible UV-Vis spectral probe

Measures the water absorption spectrum for organic-parameter analysis and process monitoring.



Measuring principle	UV-Vis spectral analysis
Spectral range	190-720 nm
Light source	Xenon flash
Optical path options	2, 5, 20 or 35 mm
Ambient temperature	-10 to +50 °C
Cleaning	Integrated air-pressure cleaning
Measurement method	Reagent-free

SG-RG-102

Tipping Bucket Rain Gauge, 0.2 mm Resolution

Tipping-bucket rainfall measurement with a stainless-steel collector.



Resolution	0.2 mm
Output	Reed switch pulses, RS485(12-24 VDC supply)
Main material	Collector:304SS, tipping bucket:ABS
Weight(unpacked)	3.5 kg

SG-RG-103

Rain and Snow Presence Detector

Detects the presence of rain or snow using a heated sensing surface.



Supply voltage	12-24 VDC
Output	Relay(NO),4-20 mA, RS485,0-2 V,0-5 V,0-10 V, NPN
Ingress protection	IP67
Operating temperature	-30 to +70 °C
Weight(unpacked)	150 g
Dimension	90*58*37 mm
Baud rate	9600 bps

SG-RG-105

Radar Rainfall Sensor

Radar rainfall measurement with detection of rain, snow and hail.



Principle	Radar precipitation detection
Detected precipitation	Rain, snow and hail
Rainfall intensity	0-200 mm/h
Resolution	0.1 mm
Sample interval	1 s
Outputs	RS485, RS232 or SDI-12
Supply	7-24 VDC
Power consumption	<2 W
Operating temperature	-30 to +70 °C

SG-RG-109

Tipping-Bucket Rain Gauge

Tipping-bucket rainfall measurement

Rainfall measurement using a 200 mm collecting funnel and a tipping bucket. The output records each calibrated increment of rainfall.



Measuring principle	Tipping bucket
Collector diameter	200 mm
Resolution	0.2 mm per tip
Accuracy	±4% at 2 mm/min rainfall intensity
Rated measuring intensity	Up to 4 mm/min
Permitted rainfall intensity	Up to 8 mm/min
Outputs	Pulse or RS485
Supply	RS485 version: 12-24 VDC
Pulse contact limits	30 VDC maximum; 5 mA maximum
Protection / temperature	IP66 / 0 to +60 °C
Construction / height	ABS collector and bucket; stainless legs / 271 mm

Level the gauge using its bubble indicator and fix it to a stable platform. Keep the funnel and insect screens clear so water reaches the bucket freely.

SG-SOIL-102

Soil Moisture, Temperature and EC Sensor

Battery-powered soil sensor

Measures soil moisture, temperature and electrical conductivity for irrigation monitoring.



Measurements	Soil moisture, temperature and conductivity
Operating temperature	-40 to +85 °C
Configuration	Bluetooth 5.1
Firmware updates	Wireless over the air
Battery	8,500 mAh Li-SOCl2

SG-SOIL-104

Handheld multi-parameter soil meter

Handheld multi-parameter soil meter



Measurements	Soil temperature, moisture, salinity, conductivity and pH
Battery	4000 mAh lithium-ion
Communication	USB
Data storage	20000 records
Handheld unit size	100 × 200 × 28 mm
Handheld unit weight	Approximately 0.5 kg

SG-SOIL-105

Soil Multi-Parameter Sensor

Soil NPK Sensor



Range	0-2000mg/kg
Resolution	1mg/kg (mg/l)
Accuracy	±2%F.s
Power supply	12 VDC/ 12-24 VDC
Output	RS485
Dimensions	45*15*135 mm
Working environment	-40 to +85 °C
Protection	IP68
NPK method	The NPK sensing element measures soil electrical conductivity.

SG-SOIL-106

Soil Multi-Parameter Sensor

Soil pH sensor



Measuring Range	0-14 pH
Accuracy	±0.1 pH
Resolution	0.01 pH
Response time	<10 seconds (in water)
Power supply	12-24 VDC
Cable length	5 meters
Working environment	0-80 °C/ 0-95% RH
Protection	IP68

SG-SOIL-107

Soil Multi-Parameter Sensor

Soil tension sensor



Supply	10-24 VDC
Working Temperature	0 to +60 °C
Range	-100 to 0 kPa
Accuracy	±0.5 kPa at 25 °C
Resolution	0.1 kPa
Shell material	Transparent PVC plastic pipe
Protection	IP67
Output	RS485(Modbus)
Power consumption	0.8 W(24 VDC)
Response time	200ms

SG-SOIL-108

Soil Multi-Parameter Sensor

Soil Temperature and Moisture Sensor (round type)



Temperature Range	-50-100 °C
Moisture Range	0-100%
Power supply	12-24 VDC
Output	RS485 / 4-20 mA
Protection	IP68

SG-SOIL-109

Soil Multi-Parameter Sensor

Soil Temperature and Moisture Sensor

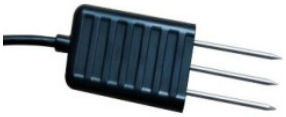


Temperature Range	-40-80 °C
Moisture Range	0-100%
Power supply	5-24 VDC or 12-24 VDC
Output	RS485
Protection	IP68

SG-SOIL-110

Soil Multi-Parameter Sensor

3-in-1 Soil Temperature, Moisture and Conductivity Sensor



Temperature Range	-40-80 °C
Moisture Range	0-100%
Conductivity Range	0-10000 µS/cm
Power supply	5-24 VDC or 12-24 VDC
Output	RS485 Modbus
Protection	IP68

SG-SOIL-111

Soil Multi-Parameter Sensor

7-in-1 Soil Integration Sensor



Supply Voltage	5-24 VDC
Output	RS485
Temperature range	-40-80 °C
Temperature accuracy	±0.5 °C
Moisture range	0%-100%
Moisture accuracy	±5%
Conductivity range	0-10000 μS/cm
Conductivity Accuracy	±10%
PH range	3-10 pH
PH precision	±0.6 pH
NPK method	The NPK sensing element measures soil electrical conductivity.

SG-SOIL-112

Soil Multi-Parameter Sensor

8-in-1 soil sensor

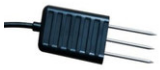


Supply Voltage	5-24 VDC
Output	RS485
Temperature range	-40-80 °C
Temperature accuracy	±0.5 °C
Moisture range	0%-100%
Moisture accuracy	±5%
Conductivity range	0-10000 μS/cm
Conductivity Accuracy	±10%
PH range	3-10 pH
PH precision	±0.6 pH
NPK method	The NPK sensing element measures soil electrical conductivity.

SG-SOIL-113

Soil Multi-Parameter Sensor

4-in-1 Soil Temperature, Moisture, Conductivity and Salinity Sensor



Temperature Range	-40-80 °C
Moisture Range	0-100%
Conductivity Range	0-10000 μS/cm
Salinity Measuring range	0- 8000 mg/L
Supply	12-24 VDC
Output	RS485 Modbus
Protection	IP68

SG-SOIL-114

Soil Multi-Parameter Sensor

Tubular soil moisture sensor for multiple depths



Temperature accuracy	±0.5 °C
Power supply	12-24 VDC
Communication mode	RS485 , Modbus

SG-SOIL-115

Soil Multi-Parameter Sensor

Tubular soil moisture sensor for multiple depths



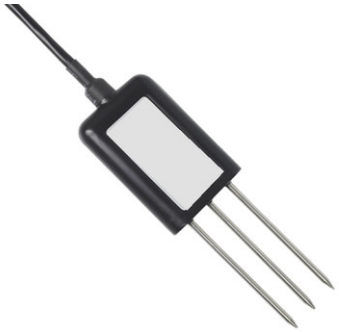
Temperature accuracy	±0.5 °C
Power supply	12-24 VDC
Communication mode	RS485 , Modbus

SG-SOIL-121

Soil Moisture, Temperature and EC Sensor

Moisture, temperature and conductivity

A three-needle probe for root-zone moisture, temperature and soil EC. It can be inserted for spot measurement or buried at a defined depth for continuous records.



Soil moisture spans	0-50% or 0-100%
Moisture accuracy	±2% over 0-50%; ±3% over 51-100%
Temperature range / accuracy	-30 to +70 °C / ±0.5 °C
Soil EC spans	0-5,000; 0-10,000; or 0-20,000 µS/cm
EC accuracy	±3% FS
Outputs	0-2 V, RS485 / Modbus RTU or SDI-12
Supply	3.6-30 VDC; SDI-12 version: 5-24 VDC
Current consumption	6 mA at 12 VDC
Construction	ABS body; 316L stainless needles
Overall dimensions	45 × 15 × 145 mm; three 70 mm needles
Protection	IP68

Insert the needles into undisturbed soil with close contact along their length. Avoid stones and air gaps. Record the installation depth and location with the readings.

SG-SRD-110

Total solar radiation sensor (pyranometer, ISO 9060 Class A)

Solar Radiation Sensor (Pyranometer)



Measured quantity	Global solar radiation
Classification	ISO 9060 / WMO Grade A
Range	0-4000 W/m²
Response time	<5 s at 95% response
Spectral range	280-3000 nm at 50% transmission
Sensitivity	7-14 μV/(W/m²)
Outputs	0-20 mV, RS485 or 4-20 mA
Operating temperature	-40 to +80 °C

SG-SRD-113

PAR (Photosynthetically Active Radiation) Quantum Sensor

PAR configuration

PAR measurement for monitoring the light available for plant photosynthesis.



Measured quantity	Photosynthetically active radiation
Spectral range	400-700 nm PAR configuration
PAR range	0-2500 μmol/(m²·s)
Accuracy	±5% of reading
Outputs	0-2000 mV, 4-20 mA or RS485, by configuration
Operating temperature	-40 to +80 °C

SG-SRD-114

Class C Pyranometer

Class C solar-radiation measurement

A thermopile pyranometer for measuring global solar irradiance. Levelling feet and a bubble indicator support horizontal installation.



Classification	Class C under ISO 9060:2018
Measuring range	0-2,000 W/m²
Spectral range	300-3,200 nm
Non-linearity	Less than ±3%
Response time	60 s or less to 95%
Analogue / digital options	0-20 mV, 4-20 mA, 0-5 V, RS485 or SDI-12
Supply	Passive mV version; powered versions use 12-24 VDC or 5 VDC as specified
Operating temperature	-40 to +80 °C
Protection	IP67
Transmission module	RS485 / SDI-12 built in; current / voltage module external
Recalibration interval	2 years

Install level with an unobstructed view of the sky. Keep the dome clean and avoid shading from masts, cables and adjacent instruments.

SG-SRD-117

Albedometer (Reflected Solar Radiation Sensor)

Measures incoming and reflected solar radiation for albedo monitoring.



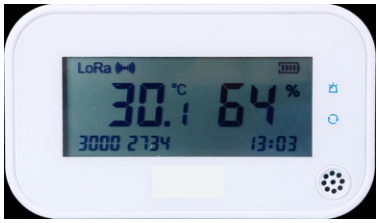
Range	-2000 to +2000 W/m²
Spectral range	280-3000 nm
Output	RS485
Response time	≤13 s (99%)
Sensitivity	7-14 μV/(W/m²)
Accuracy	±5%
Protection	IP65
Operating temperature	-40 to +80 °C

SG-THS-140

Wireless temperature and humidity sensor

LCD sensor, low-frequency LoRa version

Battery-powered temperature and humidity monitoring with a local LCD and LoRa or LoRaWAN communication.



Temperature range	-20 to +60 °C
Humidity range	0-100% RH
Temperature accuracy	±0.3 °C at 0 to +60 °C
Humidity accuracy	±3% RH
Wireless protocols	LoRa or LoRaWAN
Power	Two replaceable AA alkaline batteries
Default radio frequency	470-510 MHz
Transmit power	Up to 22 dBm
Antenna	Internal
Dimensions	103 × 60 × 27 mm

Install using the wall bracket, with adhesive tape or screws.

SG-THS-154

Atmospheric Temperature, Humidity and Barometric Pressure Sensor

Air temperature, relative humidity and pressure

Ambient measurements for agricultural and environmental stations. The probe can be mounted inside a radiation shield for outdoor air measurement.



Air temperature	-40 to +60 °C; 0.1 °C resolution
Temperature accuracy	±0.5 °C typical; ±0.2 °C digital high-precision option
Relative humidity	0-100% RH; 0.1% RH resolution
Humidity accuracy	±3% RH typical; ±2% RH digital high-precision option
Barometric pressure	300-1,100 hPa; 0.1 hPa resolution
Pressure accuracy	±1 hPa
Outputs	4-20 mA, voltage, RS485 / Modbus, SDI-12 or IIC options
Supply	5 VDC or 12-24 VDC, selected by output
Current consumption	Less than 5 mA
Protection	IP65
Probe material / weight	ABS / 120 g

Mount in a ventilated location away from heat sources. The radiation shield and pole bracket shown are mounting options; select them with the probe configuration.

SG-THS-156

Outdoor Temperature and Humidity Sensor

Outdoor radiation shield and mounting bracket

Outdoor temperature and humidity measurement through an RS485 Modbus RTU interface.



Temperature range	-40 to +80 °C
Temperature accuracy	±0.3 °C
Humidity range	0-100% RH
Humidity accuracy	±3% RH
Resolution	0.01 °C and 0.01% RH
Supply	3.6-30 VDC; 0.1 W
Communication	RS485 Modbus RTU
Housing	UV-resistant ABS
Protection	IP54

SG-WND-102

Wind Speed Sensor

Three-cup wind measurement with an aluminium-alloy body and configurable electrical output.



Supply	12-24 VDC; pulse version 5-24 VDC
Output	Pulses(3.3 V) 4-20 mA RS485 0-2 V/0-5 V/0-10 V
Range	0-30 m/s,0-50 m/s,0-60 m/s
Accuracy	±(0.3+0.03 V)m/s, V is current wind speed
Response time	<1 s
Starting threshold	<0.3 m/s
Limit wind speed	70 m/s
Ingress protection	IP65
Operating temperature	-30 to +70 °C
Weight(unpacked)	420 g
Dimension	Cup rotor: ø220 mm, Height:175 mm

SG-WND-103

Cup Anemometer (Wind Speed Sensor)

Cup anemometer with a die-cast aluminium body and an M12 connector.



Supply	12-24 VDC for RS485 / 4-20 mA; 5-24 VDC for pulse
Output options	RS485, 4-20 mA or pulse; pulse high level depends on supply voltage
Span options	0-30, 0-50 or 0-60 m/s
Starting threshold	0.2 m/s
Limit wind speed	70 m/s
Accuracy	±(0.3 + 0.03 V) m/s, where V is wind speed in m/s
Resolution	0.1 m/s
Response time	Less than 1 s
Current consumption	20 mA at 12 VDC
Protection	IP65
Operating temperature	-30 to +70 °C

SG-WND-104

Wind speed sensor (0-45 m/s)

Three-cup wind-speed measurement

A rotating cup anemometer for weather and agricultural monitoring. Pulse, analogue and digital versions connect to different types of logger or controller.



Measuring range	0-45 m/s
Accuracy	±(0.3 + 0.03 V) m/s, where V is wind speed in m/s
Starting threshold	Less than 0.5 m/s
Outputs	Pulse, 4-20 mA, voltage or RS485
Supply	Pulse: 5-24 VDC; analogue / RS485: 12-24 VDC
Digital protocol	Modbus RTU
Protection	IP65
Operating temperature	-40 to +50 °C
Construction	Carbon-fibre structure
Dimensions	179 mm cup-rotor diameter; 160 mm high
Unpacked weight	170 g

Mount clear of nearby obstructions and keep the sensor level. Use the output version that matches the logger input and the available power supply.

SG-WND-105

Duct and Pipe Air Velocity Sensor

Pressure-based air velocity measurement for ducts and pipes, with pressure and air-volume readings.



Measurement	Differential pressure, air velocity and air volume
Pressure ranges	Configured within 0-5 kPa
Wind speed range	Up to 100 m/s
Outputs	4-20 mA and 0-10 V; other outputs configured separately
Response time	<1 s
Supply	24 VAC / 24 VDC ±20%, or 12 VDC
Operating temperature	-10 to +70 °C

SG-WND-107

Wind Direction Sensor

Low-inertia wind vane with configurable analog or RS485 output.



Output	4-20 mA, RS485 or 0-5/10 V
Supply	12-24 VDC
Range	0-360°
Accuracy	±3°
Resolution	1° or 22.5°, by configuration
Protection	IP65
Construction	304 stainless vane; aluminium-alloy body

SG-WND-108

Wind Direction Sensor

Wind-direction measurement with a stainless-steel vane, aluminium body and M12 connector.



Supply voltage	12-24 VDC
Output	RS485,4-20 mA
Range	0-360°
Starting threshold	0.5 m/s
Limit wind speed	70 m/s
Accuracy	±3°
Resolution	1°
Response time	<1 s
Current consumption	20 mA@12 V
Ingress protection	IP65

SG-WND-109

Wind Direction Sensor

Wind-vane direction measurement

A low-inertia vane measures wind direction for fixed environmental stations. The RS485 version provides direction data over Modbus RTU.



Measuring range	0-360°
Accuracy	±3°
Resolution	1°
Starting threshold	Less than 0.5 m/s
Outputs	4-20 mA, 0-5 V or RS485
Supply	5 VDC or 12-24 VDC, selected by output
Digital protocol	Modbus RTU
Protection	IP65
Operating temperature	-40 to +50 °C
Dimensions	147 mm turning radius; 199 mm high
Unpacked weight	195 g

Align the sensor to geographic north using the installation reference. Leave enough clearance for the vane to turn freely.

SG-WND-110

Combined Wind Speed and Direction Sensor

One assembly measures wind speed with cups and wind direction with a vane.



Wind speed range	0-45 m/s analog; 0-70 m/s digital or pulse
Wind direction range	0-360°
Wind speed accuracy	±(0.3 + 0.03 V) m/s, V = wind speed
Wind direction accuracy	≤±3°
Supply	12-24 VDC; 5 V option for digital output
Outputs	RS485, RS232, 4-20 mA or 0-5 V; NPN pulse for wind speed
Protection	IP65
Operating temperature	-40 to +70 °C

SG-WND-111

Ultrasonic Wind Speed and Direction Sensor

Ultrasonic wind speed and direction measurement without rotating parts.



Principle	Ultrasonic transit time
Wind speed ranges	0-45 or 0-60 m/s; extended 0-80 m/s option
Direction range	0-360°
Wind speed accuracy	±0.2 m/s at ≤10 m/s; <±2% of reading above 10 m/s
Outputs	RS485, RS232 or SDI-12; optional analog wind outputs
Supply	12-24 VDC
Protection	IP66
Operating temperature	-40 to +70 °C

SG-WS-108

All-in-One Weather Station Kit

Weather monitoring controller with external sensors

Collects weather sensor data through serial and pulse interfaces.



Supported measurements	Wind, temperature, humidity, pressure, light, particulate matter and noise, by sensor configuration
Additional sensor support	Rainfall, CO2, total solar radiation and PAR
Serial interface	RS485 for external sensors
Counter interface	Pulse input; supports a tipping-bucket rain gauge
Configuration and updates	Bluetooth; wireless firmware updates
Power	External 12 V battery
Backup battery	1,000 mAh rechargeable lithium-ion

SG-WS-109

All-in-One Weather Station Kit

Solar-powered weather monitoring controller

Connects an external temperature, humidity and pressure sensor with optional rainfall and illumination sensors.



Weather input	External three-in-one temperature, humidity and pressure sensor
Additional inputs	Rain gauge and illumination sensor
Enclosure	IP66
Configuration	Bluetooth
Firmware updates	Wireless over the air
Power	Solar panel and 3,000 mAh lithium-ion battery

SG-WS-110

Seven-in-One All-in-One Weather Station

Seven weather measurements in one assembly, with ultrasonic wind sensing and optical rainfall detection.



Measurements	Temperature, humidity, pressure, light, rain, wind speed and direction
Wind speed	0-60 m/s standard; 0-75 m/s extended
Wind direction	0-360°
Outputs	RS485 / Modbus RTU and SDI-12
Supply	12-24 VDC; 0.5 W
Heater supply	24 V; 21 W
Protection	IP66
Operating temperature	-40 to +85 °C

SG-WS-111

10-in-1 Ultrasonic Integrated Sensor



Wind speed range	0-60 m/s
Wind direction range	0-359°
Temperature range	-40 to +80 °C
Humidity range	0-100% RH
Pressure range	10-1100 hPa
Rainfall intensity	0-8 mm/min
PM2.5 / PM10 ranges	0-1000 / 0-2000 μg/m³
Noise range	30-130 dB
Radiation / illuminance	Choose radiation 0-1500 W/m² or illuminance 0-200000 lux
Supply	12-24 VDC
Output	RS485

SG-WS-112

2-in-1 Ultrasonic Wind Speed and Direction Sensor



Wind speed range	0-60 m/s
Wind direction range	0-360°
Direction accuracy	±3°
Direction resolution	1°
Supply	12-24 VDC
Output	RS485

SG-WS-113

2-in-1 Ultrasonic Wind Speed and Direction Sensor



Power supply	12 VDC
Output	RS485
Working environment	-40 to +70 °C; 0-100% RH
Power consumption	0.2 W
Protection	IP65

SG-WS-114

3D Ultrasonic Anemometer



Power Supply Voltage	9-24 VDC
Signal Output	RS485
Communication Protocol	Standard Modbus Protocol
Baud Rate	9600 bps
Average Power Consumption	2 W
Operating Temperature	-40 to 80 °C
Operating Humidity	0-100% RH
Protection	IP66

SG-WS-115

4-in-1 Gas Sensor



Gas channels	O3, SO2, NO2 and CO
Range per gas channel	0-5 ppm
Resolution per channel	0.001 ppm

SG-WS-116

5-in-1 Ultrasonic Integrated Sensor



Humidity accuracy	±5% RH
Supply	12-24 VDC
Output	RS485

SG-WS-117

5-in-1 Ultrasonic Integrated Sensor



Accuracy	Temperature ±0.5 °C; Humidity ±3% RH; Air pressure ±1.5 hPa
Supply	12-24 VDC
Output	RS485
Protection	IP65

SG-WS-118

6-in-1 Ultrasonic Integrated Sensor



Wind speed range	0-40 m/s
Wind direction range	0-359°
Temperature range	-40 to +80 °C
Humidity range	0-100% RH
Pressure range	10-1100 hPa
Rainfall intensity	0-8 mm/min
Output	RS485
Protection	IP65

SG-WS-119

6-in-1 Gas Sensor



Gas channels	O3, SO2, NO2 and CO
Range per gas channel	0-5 ppm
Resolution per gas channel	0.001 ppm
PM2.5 range	0-1000 μg/m³
PM10 range	0-2000 μg/m³

SG-WS-120

7-in-1 Ultrasonic Integrated Sensor



Wind speed range	0-60 m/s
Wind direction range	0-359°
Temperature range	-40 to +80 °C
Humidity range	0-100% RH
Pressure range	10-1100 hPa
Rainfall intensity	0-8 mm/min
Solar radiation	0-1500 W/m²
Supply	12-24 VDC
Output	RS485

SG-WS-121

7-in-1 Ultrasonic Integrated Sensor



Supply	12 VDC
Output	RS485
Average power consumption	0.3 W
Protection	IP65

SG-WS-122

8-in-1 Ultrasonic Integrated Sensor



Wind speed range	0-60 m/s
Wind direction range	0-359°
Temperature range	-40 to +80 °C
Humidity range	0-100% RH
Pressure range	10-1100 hPa
PM2.5 range	0-1000 μg/m³
PM10 range	0-2000 μg/m³
Noise range	30-130 dB
Supply	12-24 VDC
Output	RS485

SG-WS-123

9-in-1 Ultrasonic Integrated Sensor



Wind speed range	0-60 m/s
Wind direction range	0-359°
Temperature range	-40 to +80 °C
Humidity range	0-100% RH
Pressure range	10-1100 hPa
Rainfall intensity	0-8 mm/min
PM2.5 / PM10 ranges	0-1000 / 0-2000 μg/m³
Radiation / illuminance	Choose radiation 0-1500 W/m² or illuminance 0-200000 lux
Supply	12-24 VDC
Output	RS485

SG-WS-124

ABS Tipping Bucket Rain Gauge



Collector diameter	Ø120 ± 0.6 mm
Measuring range	4 mm/min (precipitation intensity)
Resolution	0.2 mm
Accuracy	± 4% (indoor static test, rain intensity of 2 mm/min)
Power supply	5 VDC / 12-24 VDC
Cable length	5 meters
Operating Temperature	0-50 °C

SG-WS-125

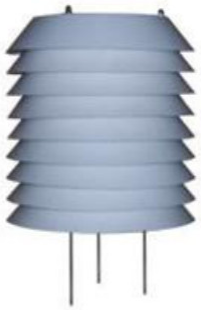
CO sensor



Range	0-5 ppm
Resolution	0.001 ppm
Accuracy	±3%

SG-WS-126

CO2 Sensor



Range	0-2000 ppm or 0-5000 ppm
Accuracy	±(40 ppm + 2% FS)
Resolution	1 ppm
Supply	12 VDC/24 VDC
Output	4-20 mA / RS485
Cable length	2.5 meters
Working temperature	-40 to +70 °C
Relative humidity	0-100%
Weight	140 g
Power consumption	4.8 mW

SG-WS-127

Double Tipping Bucket Rain Gauge



Collector diameter	Ø200 ± 0.6 mm
Measuring range	0-4 mm/min (precipitation intensity)
Resolution	0.1 mm
Accuracy	± 4% (indoor static test, rain intensity of 2 mm/min)
Power supply	5 VDC/ 12-24 VDC
Output	Switch signal: reed switch on/off/ RS485
Cable length	5 meters
Operating Temperature	0-60 °C

SG-WS-128

Wind Direction Sensor



Measuring range	0 to 360°
Resolution	1°
Accuracy	±3°
Starting wind speed	≤0.5 m/s
Supply	5 VDC or 12-24 VDC
Output	4-20 mA / RS485 / 0-5 V
Cable length	2.5 meters
Working environment	-40 to +80 °C/≤ 100% RH
Weight	210 g
Power consumption	0.15 W

SG-WS-129

Evaporation Sensor



Measuring range	0-1000 mm
Accuracy	±0.5% (0-+50 °C)
Resolution	0.1 mm
Supply	12-24 VDC
Output	4-20 mA / RS485
Cable length	5 meters
Working temperature	-20 to +85 °C
Relative humidity	100%

SG-WS-130

Atmospheric Temperature, Humidity and Pressure Sensor



Temperature range	-40 to +80 °C
Temperature accuracy	±0.5 °C
Humidity range	0-100% RH
Humidity accuracy	±5% RH
Pressure range	10-1200 hPa
Pressure accuracy	±1.5 hPa
Supply	12-24 VDC
Output	RS485

SG-WS-131

Atmospheric Temperature, Humidity and Pressure Sensor



Temperature element	Pt100
Temperature range	-40 to +80 °C
Temperature accuracy	±0.5 °C
Humidity range	0-100% RH
Humidity accuracy	±5% RH
Pressure range	10-1200 hPa
Supply	12-24 VDC
Output	RS485

SG-WS-132

Atmospheric Temperature and Humidity Sensor



Temperature range	-40 to +80 °C
Temperature accuracy	±0.5 °C
Humidity range	0-100% RH
Humidity accuracy	±5% RH
Supply	12-24 VDC
Output	RS485

SG-WS-133

Illumination Sensor



Measuring range	0-200000 lux
Wavelength range	380 nm-730 nm
Accuracy	±7%
Supply	12 VDC/24 VDC
Output	4-20 mA / RS485
Cable length	2.5 meters
Working temperature	-10 to +70 °C
Relative humidity	0-80% RH
Weight	170 g

SG-WS-134

NO2 sensor



Range	0-5 ppm
Resolution	0.001 ppm
Accuracy	±3%

SG-WS-135

Noise Sensor



Range	30-130 dB
Output	RS485
Frequency weighting / calibration	(23±5 °C): Frequency weighting in accordance with IEC 61672 type 2, calibrated with an input signal of 94 dB (31.5 Hz - 8kHz)
Supply	12 VDC
Operating temperature	-15 to +50 °C (5 to 122 °F)
Operating humidity	<80% relative humidity

SG-WS-136

Ozone(O3) sensor



Range	0-5 ppm
Resolution	0.001 ppm
Accuracy	±3%

SG-WS-137

Photosynthetically Active Radiation Sensor(PAR Sensor)



Measured quantity	Photosynthetically active radiation
Spectral range	400-700 nm
Supply	12-24 VDC
Cable	2.5 m
Response time	Approximately 1 s at 99%
Operating temperature	-40 to +65 °C

SG-WS-138

PM2.5+ PM10 Integrated Sensor



Measuring range	PM2.5:0-1000 μg/m³
Minimum detection particle	0.3 μm diameter
Supply	12-24 VDC
Output	RS485
Cable length	2.5 meters
Power consumption	350 mW

SG-WS-139

PM100 Sensor



Minimum detection particle	0.3 μm diameter
Supply	12-24 VDC
Output	RS485
Cable length	2.5 meters

SG-WS-140

PM2.5+ PM10+CO2 Integrated Sensor



PM2.5 range	0-1000 μg/m³
PM10 range	0-2000 μg/m³
CO2 range	0-2000 ppm
Particle accuracy	±15%
CO2 accuracy	±(40 ppm + 2% FS)
Minimum particle size	0.3 μm
Supply	12-24 VDC
Output	RS485

SG-WS-141

Piezoelectric Rain Sensor



Principle	Piezoelectric rainfall sensing
Rainfall intensity	0-8 mm/min
Resolution	0.01 mm
Output	RS485 / Modbus
Supply	12-24 VDC
Average current	<5 mA at 12 V
Protection	IP66

SG-WS-142

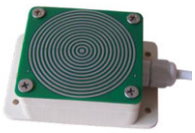
Stainless Steel Tipping Bucket Rain Gauge



Collector diameter	Ø200±0.6 mm
Measuring range	0-4 mm/min (precipitation intensity)
Resolution	0.2 mm
Accuracy	±4% (indoor static test, rain intensity is 2 mm/min)
Supply	5 VDC/12-24 VDC
Output	Reed switch on/off / RS485
Cable length	5 meters
Working temperature	0-50 °C

SG-WS-143

Rain and Snow Sensor



Power supply	12-24 VDC
Cable length	5 meters
Power consumption	1.5 W

SG-WS-144

Non-contact Road Surface Condition Detection Sensor



Measuring distance	2-15 m
Spot diameter	25.4 cm
Installation angle	30-90°
Supply options	220 VAC or 24 VDC
Maximum power	4 W
Water / ice / snow range	0-10 mm
Interface	RS485
Operating temperature	-40 to +70 °C
Dimensions	400 × 136 × 220 mm

SG-WS-145

Sunshine Duration Sensor



Resolution	0.1 h
Spectral Range	0.3 to 3 μm
Response Time	< 5 s
Measurement Range	0 to 24 h
Power Supply	12-24 VDC
Cable length	2.5 meters

SG-WS-146

Ultrasonic Snow Depth Sensor



Principle	Ultrasonic snow-depth measurement
Supply	12 VDC
Output	RS485
Measuring range	0-1000 mm
Measurement precision	±0.1% FS
Power	180 mW normal; 3 W with heating below 5 °C
Baud rate	9600 bps
Protection	IP65

SG-WS-147

Laser Snow Depth Sensor



Power Supply	10-30 VDC
Maximum Power Consumption	0.8 W (3.5 W during heating)
Operating Temperature	-40 °C to +50 °C, 0% RH to 95% RH (non-condensing)
Resolution	1 mm
Accuracy	±1 mm
Measuring Range	0.05 to 2.5m
Output Signal	RS485 (Modbus protocol)

SG-WS-148

SO2 sensor



Range	0-5 ppm
Resolution	0.001 ppm
Accuracy	±3%

SG-WS-149

Wind Speed Sensor



Measuring range	0 to 70 m/s
Resolution	0.1 m/s
Accuracy	±(0.3+0.03 V)m/s
Starting wind speed	≤0.5 m/s
Supply	5 VDC or 12-24 VDC
Output	4-20 mA / RS485 / 0-5 V
Cable length	2.5 meters
Working environment	-40 to +80 °C/≤ 100% RH
Weight	130 g
Power consumption	50 mW

SG-WS-150

5-in-1 Temperature, Humidity, Pressure, Illumination, CO2 Sensor



Temperature range	-50 to +100 °C
Humidity range	0-100% RH
Pressure range	500-1100 hPa
Illuminance range	0-200000 lux
CO2 range	0-2000 ppm
CO2 accuracy	±(40 ppm + 2% FS)
Supply	12-24 VDC
Output	RS485

SG-WS-151

4-in-1 Temperature, Humidity, PM2.5+ PM10 Sensor



Temperature / humidity accuracy	±0.5 °C / ±5% RH
Temperature / humidity resolution	0.1 °C / 0.1% RH
Measuring range	PM2.5:0-1000 μg/m³
Minimum detection particle	0.3 μm diameter
Supply	12-24 VDC
Output	RS485

SG-WS-152

Ultraviolet Radiation Sensor



Supply	10-30 VDC
Maximum power consumption	0.06 W
Operating Temperature	-25 to +60 °C
UV intensity range	0-15 mW/ cm²
Resolution	0.01 mW/ cm²
UV index range	0-15
Measurement wavelength range	wavelength 290-390 nm
Linearity	± 1%
Annual stability	± 3%
Response time	0.2 s

SG-WS-153

Visibility Sensor



Principle	Light scattering
Peak wavelength	875 nm
Bandwidth	100 nm
Output	RS485
Supply	12 VDC
Average power	0.8 W
Operating temperature	-40 to +80 °C
Protection	IP65

SG-WS-154

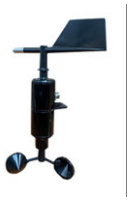
Visibility Sensor



Measurement Accuracy	±10%
Communication Protocol	ModBus, ASCII
Weight	Aluminum Alloy ≤ 2.8 kg; Stainless Steel ≤ 12 kg
Power Supply	12-24 VDC; 220 VAC (Optional)
Power Consumption	≤6 W (Heated State)

SG-WS-155

Combined Wind Speed and Direction Sensor



Wind-direction resolution	1°
Power supply	12-24 VDC
Signal output	4-20 mA or RS485
Working environment	Temperature -40 to +50 °C Humidity 100% RH
Protection	IP45

SG-WS-156

Wall-mounted temperature and humidity sensor



Temperature range	-50 to +100 °C
Temperature accuracy	±0.5 °C
Temperature resolution	0.1 °C
Humidity range	0-100% RH
Humidity resolution	0.1% RH
Supply	12-24 VDC
Output	RS485

SG-WS-157

Atmospheric Visibility Sensor

Forward-scatter, standard 10 km range

Forward-scatter visibility measurement for roads, ports and environmental stations.



Principle	Forward scatter
Measuring range	10 m-10 km standard configuration
Resolution	1 m
Accuracy	±10% over 10 m-10 km
Output	RS485 or RS232
Supply	12-24 VDC
Power consumption	≤5 W
Operating conditions	-40 to +50 °C; non-condensing

SG-WS-158

Optical Visibility Sensor

Optical forward-scatter visibility measurement with heated optics.



Measurement range	10 m-10 km (typical); 10 m-30 km
Measurement principle	Forward scatter
Resolution	1 m
Accuracy	±10%
Supply	12-24 VDC
Output	RS485, RS232
Power consumption	Approximately 1 W; heating: 6 W maximum
Dimension	646 × 328 × 176 mm
Operating temperature	-40 to +50 °C; 0-100% RH, non-condensing
Baud rate	9600 bps

SG-WS-159

Laser Cloud Height Ceilometer, 12 km

Laser measurement of cloud-base height, cloud layers and vertical visibility.

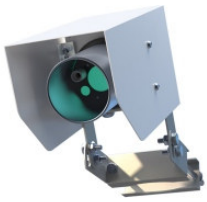


Cloud base height	30 m-12 km
Cloud layers	Up to 3
Resolution	5 m
Hard-target measurement error	±15 m
Sampling period	30-300 s, adjustable
Supply	198-242 VAC
Power	≤100 W without heating; ≤700 W with heating
Interfaces	RS232 / RS485
Operating temperature	-40 to +50 °C

SG-WS-160

Non-contact road condition sensor

Infrared monitoring of water, ice and snow on road surfaces.



Principle	Non-contact infrared road-surface sensing
Measured conditions	Water, ice, snow and surface grip
Measuring distance	2-15 m
Output	RS485
Supply	12-24 VDC
Power consumption	5 W including lens heating
Operating temperature	-40 to +80 °C

SG-WS-162

Ultrasonic All-in-One Automatic Weather Station

Ultrasonic weather instrument

Combined weather measurement in one housing. Ultrasonic wind sensing has no rotating cups or vane; additional measurement modules are selected with the station.



Wind speed	0-60 m/s; 0.01 m/s resolution; ±2% FS accuracy
Wind direction	0-360°; 1° resolution; less than 3° error
Air temperature	-40 to +80 °C; ±0.5 °C accuracy
Relative humidity	0-100% RH; ±3% RH accuracy
Barometric pressure	300-1,100 hPa; ±1 hPa accuracy
Output options	RS485, RS232 or SDI-12
Protocols	Modbus RTU default; NMEA-0183 or SDI-12 options
Supply	12-24 VDC
Data update	1 s default
Power	Less than 3 W; automatic heating power: 6 W
Protection / temperature	IP66 / -40 to +80 °C
Additional module options	Radar rainfall, solar irradiance, illuminance, dust, GPS and compass

Specify the required measurements when selecting the station. For a fixed installation without compass correction, align the north reference to geographic north.

SG-WS-163

Ultrasonic Automatic Weather Station

Configurable ultrasonic weather instrument

Compact ultrasonic weather sensor with configurable environmental channels.



Wind speed	0-40 m/s
Wind direction	0-359°
Parameter options	Temperature, humidity, pressure and other configured weather channels
Output	RS232 / RS485 (Modbus), or SDI-12
Supply	7-30 VDC
Power consumption	1.7 W
Protection	IP65
Operating temperature	-20 to +60 °C

SG-WS-164

Ultrasonic Automatic Weather Station

Configurable ultrasonic weather instrument

Integrated ultrasonic weather monitoring with configurable precipitation and environmental channels.



Wind speed	0-70 m/s
Wind direction	0-359°
Parameter options	Temperature, humidity, pressure and rainfall; additional modules configurable
Output	RS232 / RS485 (Modbus), or SDI-12
Supply	12-24 VDC
Power consumption	<1.7 W
Protection	IP65
Operating temperature	-20 to +70 °C

SG-SOIL-127

Soil Temperature, Moisture and Salinity Sensor

Soil temperature, moisture and salinity probe

Measures three soil parameters with one insertion probe.



Measurements	Soil temperature, moisture and salinity
Temperature range	-40 to 80 C
Moisture range	0-100%
Salinity range	0-8000 mg/L
Interface and power	RS485 Modbus; 5-24 V DC
Protection	IP68

SG-THS-115

Wireless Temperature and Humidity Sensor

Indoor wireless temperature and humidity sensor

Measures indoor temperature and relative humidity.



Temperature range	-20 to 50 C
Temperature accuracy	+/-0.3 C
Humidity range	0-99% RH
Power	Two AAA batteries

SG-THS-122

Wireless Environmental and Condition Monitoring Sensors

LTE-M / NB-IoT environmental sensor

Measures ambient temperature and humidity with an e-ink display.



Temperature range	0-60 C
Humidity range	0-99.9% RH
Display	2.7-inch e-ink
Communication	LTE-M and NB-IoT

SG-DAQ-110

AI Image Meter-Reading End Node

Solar-powered image meter-reading node

Captures meter images and extracts digits for remote water, gas and electricity metering.



Image	Monochrome
Resolution	640 × 480 pixels
Viewing angle	110°
Image size	64 kB
Data	Image transmission and recognised meter digits
Meter types	Water, gas and electricity
Configuration and updates	Bluetooth 5.1; wireless firmware updates
Power	Solar panel with lithium-ion battery

SG-DAQ-111

Outdoor dry contact and pulse counter sensor

Solar-powered dry-contact node

Monitors dry-contact open and closed states for water and gas metering.



Input	Dry-contact open/close detection
Reporting	State statistics, data logging and open-state alarm
Enclosure	IP67
Configuration and updates	Bluetooth 5.1; wireless firmware updates
Power	Solar panel with lithium-ion battery

SG-DAQ-148

Paperless recorder, compact display

Records industrial sensor signals for local display, trending and process review.



Display	3.5 inch TFT LCD
Resolution	320 × 240 pixels
Input channels	1-18
Signal inputs	DC voltage, current, RTD or thermocouple
Sampling period	1 second
Recording interval	1 second to 60 minutes
Communication	One RS485 channel

SG-DAQ-149

Paperless recorder, seven-inch display

Records industrial sensor signals for local display, trending and process review.



Display	7 inch TFT LCD
Input channels	1-48
Signal inputs	DC voltage, current, RTD or thermocouple
Sampling period	1 second
Recording interval	1 second to 60 minutes
Communication	RS485

SG-DAQ-150

Paper chart recorder

Records industrial sensor signals for local display, trending and process review.



Display	2.4 inch OLED display
Resolution	128 × 64 pixels
Input channels	1-12
Signal inputs	DC voltage, current, RTD or thermocouple
Sampling period	0.6 second
Paper speed	10-450 mm/h
Communication	RS485

SG-DAQ-151

Paperless recorder, ten-inch display

Records industrial sensor signals for local display, trending and process review.



Display	10.4 inch TFT LCD
Resolution	640 × 480 pixels
Input channels	1-40
Signal inputs	DC voltage, current, RTD or thermocouple
Sampling period	1 second
Recording interval	1 second to 4 minutes
Communication	RS232 / RS485

SG-DTU-111

RS485-to-LoRaWAN Data Transmission Unit

RS485 to LoRaWAN converter

Reads data from RS485 instruments and sends selected values over LoRaWAN. A configurable command and extraction sequence adapts the uplink to the connected instrument.



Externally powered RS485 / LoRaWAN converter

Field interface	RS485
Power input	7-24 VDC
Network class	LoRaWAN Class C
Activation	OTAA default; ABP supported
Idle current	32 mA at 12 V, excluding the connected RS485 device
Transmit current	65 mA at 12 V at the specified 20 dBm transmit setting
Serial rate	200-115,200 bit/s
Serial settings	Configurable parity and stop bits
Polling / payload	User-defined RS485 commands and returned-data extraction
Regional radio options	EU868, US915, AU915, AS923 and other regional hardware versions

Use an external power source and a compatible LoRaWAN gateway / network server. Select the regional radio version and configure the polling commands for the instrument register map.

SG-DTU-122

RS485/UART Wireless Data Transmission Unit

LoRaWAN RS485 / UART converter, battery version

Connects RS485 or UART sensors to a LoRaWAN network and supports remote configuration.



Wireless	LoRaWAN, OTAA or ABP
Serial interfaces	RS485 and 3.3/5 V UART
Sensor support	Modbus
Sensor power	Controllable 3.3 V and 5 V outputs
Battery	8500 mAh Li-SOCl2, non-rechargeable
Configuration	Bluetooth LE
Protection	IP66

SG-ISO-146

DIN-Rail Analogue Signal Isolator

Analogue signal isolator

Isolates and converts field signals for industrial control systems.



Input options	4-20 mA, 0-20 mA, 1-5 V, 0-5 V, 0-10 V or 2-10 V
Output options	4-20 mA, 0-20 mA, 1-5 V, 0-5 V, 0-10 V or 2-10 V
Supply	20-35 VDC
Power consumption	≤0.8 W single output; ≤1.4 W dual output
Accuracy	0.1% FS at 20 °C
Response time	≤400 ms
Operating temperature	-20 to +60 °C
Mounting	35 mm DIN rail

Mount on a 35 mm DIN rail.

SG-ISO-147

DIN-Rail Analogue Signal Isolator

Current signal isolator

Isolates and converts field signals for industrial control systems.



Input options	4-20 mA or 0-20 mA
Output options	4-20 mA, 0-20 mA, 1-5 V, 0-5 V, 0-10 V or 2-10 V
Supply	20-35 VDC
Power consumption	≤1.5 W single output; ≤2.6 W dual output
Accuracy	0.1% FS at 20 °C
Response time	≤2 ms
Operating temperature	-20 to +60 °C
Mounting	35 mm DIN rail

Mount on a 35 mm DIN rail.

SG-ISO-148

DIN-Rail Analogue Signal Isolator

Temperature signal isolator

Isolates and converts field signals for industrial control systems.



Input options	RTD, thermocouple or mV; potentiometer custom option
Output options	4-20 mA, 0-20 mA, 1-5 V, 0-5 V, 0-10 V or 2-10 V
Supply	20-35 VDC
Power consumption	≤1 W single output; ≤1.4 W dual output
Accuracy	0.1% FS at 25 ±2 °C
Response time	Less than 0.5 second
Operating temperature	-20 to +60 °C
Mounting	35 mm DIN rail

Mount on a 35 mm DIN rail.

SG-NODE-108

Universal Wireless Sensor End Node

LoRaWAN wireless end node, battery version

Converts connected field sensor signals into LoRaWAN uplink data.



Wireless	LoRaWAN, OTAA or ABP
Digital pins	Three interrupt or digital I/O pins
One-wire interfaces	Three
Other interfaces	UART and I2C
Sensor power	Controllable 5 V output
Battery	8500 mAh Li-SOCl2, non-rechargeable
Configuration	Bluetooth LE
Protection	IP66

SG-RTU-143

Low-Power Pressure and Water-Level Telemetry Terminal

Integrated pressure level station

An integrated pressure-level monitoring station with cellular telemetry and remote data collection.



Communication	4G; BDS option
Sensor interface	Three RS485 connections with controllable power output
Sleep current	≤15 μA at 12 VDC
Average current	≤0.5 mA at 12 VDC, hourly sampling and one daily transmission
Terminal operating temperature	-40 to +75 °C
Pressure level spans	0-10, 40, 50 or 80 m, by configuration
Level accuracy	0.05% FS; 1 mm resolution
Sensor supply	4.8-30 VDC
Sensor housing	316L stainless steel

SG-RTU-144

Hydrological Telemetry Terminal

A low-power cellular data logger for monitoring manholes and drainage networks.



Network Standard	4G/NB-IoT
Cellular bands	LTE TDD: B34/B38/B39/B40/B41 LTE FDD: B1/B3/B5/B8
Interfaces	Internal interfaces: 1×battery access switch, 1×SIM card slot, 1×battery input interface, 1×battery charging interface; External interfaces: 1×antenna interface, 2×LED indicators, 3×aviation connectors
Standby Current	≤ 10uA@12 VDC
Power Supply	12 VDC(±15%)
Operating Temperature	-20~+60 °C

SG-RTU-145

Water Level Telemetry Terminal

A cellular remote terminal for collecting analog, serial and pulse sensor data.



4G	4G Cellular
Antenna Interface	SMA-K Female
SIM Slot	Nano-SIM Socket
Interfaces	2×RS232, 2×RS485, 2×12 VDC relay control output
Analog Input	4~20 mA standard analog signal input
Digital Input	Rain gauge / dry contact digital input
Operating Voltage	9~32 VDC input, default rated at 12 VDC
Operating Current	≤13 mA @12 VDC (5min sampling + 5min upload cycle)
Operating Temperature	-30~+75 °C
Relative Humidity	95% RH (non-condensing)

SG-RTU-152

Industrial Telemetry Remote Terminal Unit

Compact cellular RTU

Connects serial and analogue field devices to cellular data services with configurable Modbus operation.



Serial ports	One RS232 and one RS485
Serial protocol	Modbus RTU
Data protocols	MQTT, TCP/IP, UDP/IP, SMS and AT commands
Supply	7.5-32 VDC
Operating temperature	-30 to +75 °C
Dimensions	69 × 84 × 23.5 mm
Weight	110 g, excluding accessories
Mounting	Wall mount

SG-RTU-157

Industrial Telemetry Remote Terminal Unit

Programmable cellular RTU

Acquires analogue and digital signals and communicates with serial and IP field devices.



Network ports	One LAN and one WAN/LAN; one USB
Serial ports	One RS232 and three RS485
Analogue inputs	12 channels; 4-20 mA or 0-5 V; 12-bit
Digital inputs	12 dry-contact and four 0-5 V wet-contact inputs
Relay outputs	Two
Supply	7.5-32 VDC
Operating temperature	-30 to +75 °C
Dimensions	236 × 125 × 40 mm
Weight	500 g, excluding accessories

SG-DAQ-152

Flow Totalizer

Panel-mount totalizer with USB storage option



Configuration	Panel-mount totalizer with USB storage option
Functions	Flow totalization with temperature and pressure compensation
Flow input options	4-20 mA, frequency or pulse
Temperature input options	4-20 mA, PT100 or PT1000
Communication options	Modbus RS485 or RS232
Supply options	110-240 VAC or 24 VDC

SG-GW-144

Indoor LoRaWAN Gateway

Indoor LoRaWAN gateway

Connects LoRaWAN field devices to local or remote applications.



Radio	10 programmable parallel demodulation paths
System	Open-source Debian
Connections	UDP packet forwarder, Basic Station or MQTT gateway bridge
Power supply	5 V DC, 2 A; USB Type-C

SG-HMI-113

5-inch Wireless HMI Touch Screen

5-inch wireless HMI touch screen

Provides a touch-screen interface for monitoring and control.



Display	5.0-inch HMI touch screen
Interfaces	RS485, Wi-Fi and Bluetooth
Wireless protocols	LoRa and LoRaWAN
Power supply	5 V DC; external power adapter

SG-NODE-103

Generic LoRaWAN End Node

LoRaWAN I/O controller

Connects digital, analogue and relay signals to a LoRaWAN network.



Digital I/O	Two bidirectional inputs and two outputs
Relay outputs	Two; 5 A at 250 V AC or 30 V DC
Analogue inputs	Two 0-20 mA and two 0-30 V inputs
Power supply	7-24 V DC

SG-RTU-161

4G Telemetry Module in Protective Enclosure

4G module in a protective enclosure

Transmits field data through a 4G telemetry module.



Communication	4G
Data transmission	MQTT or HTTP
Housing	Protective enclosure

SG-SBC-103

USB LoRaWAN Development Adapter

USB LoRaWAN development adapter kit

Connects a LoRaWAN development radio through USB.



Interface	USB
Protocol	LoRaWAN v1.0.3 and point-to-point LoRa
Kit shown	USB-A radio adapter, antenna and USB-C adapter

SG-AQM-127

Outdoor Noise Level Sensor

Outdoor A-weighted noise-level measurement with a microphone windscreen.



Measurement	A-weighted sound level
Range	30-130 dB(A)
Resolution	0.1 dB
Output	RS485
Supply	5 VDC or 12-24 VDC
Protection	IP65
Response time	<200 ms
Operating conditions	-20 to +80 °C; 10-90% RH

SG-AQM-128

Multi-in-One Ambient Gas Sensor

Configurable gas and environmental measurement in a ventilated outdoor housing.



Measurement configuration	Selectable environmental and gas parameters
Supply	12-24 VDC
Output	RS485
Warm-up time	3 min
Response time	<1 s
Enclosure material	ABS
Operating conditions	-20 to +60 °C; 15-80% RH

SG-CTL-131

Intelligent PID Process Controller

Intelligent PID controller

Panel instrument for industrial signal display and process supervision.



Display	Dual LED
Input types	35 input types
Accuracy	0.2% FS
Alarm outputs	0-4
Analogue outputs	0-1
Communication	RS485 / RS232
Supply	100-240 VAC or 20-29 VDC

SG-CTL-132

Flow Batch Controller

Panel batch controller

Controls and displays fluid batches using flow pulses and local or remote commands.



Signal inputs	NPN, open collector, reed switch or active pulse
Control inputs	Start, hold, resume, keypad lock and external alarm
Outputs	Two mechanical relays and one passive transistor output
Communication options	RS232 or RS485, Modbus RTU
Power	24 VDC or 110-230 VAC
Sensor supply	8.2 V, 12 V or 24 VDC
Panel protection	IP67
Area classification	Safe areas

SG-DRV-161

Wireless Solenoid Valve Controller with Pulse Counting

LoRaWAN solar-powered valve controller

Controls two irrigation solenoid valves and counts pulses from two external meters.



Wireless protocol	LoRaWAN 1.0.3
Valve channels	Two; 5 V, 9 V or 12 V solenoid control
Pulse inputs	Two
Battery	10,000 mAh rechargeable lithium-ion
Solar panel	1.2 W
Enclosure	IP67
Electronics	Conformal coating for water resistance

SG-HMI-120

Panel Process Indicator and Totalizer

Single-loop digital indicator

Panel instrument for industrial signal display and process supervision.



Display	Dual LED
Input types	35 input types
Accuracy	0.3% FS
Alarm outputs	0-2
Analogue outputs	0-1
Communication	RS485
Supply	100-240 VAC/DC or 12-36 VDC

SG-HMI-121

Panel Process Indicator and Totalizer

Enhanced single-loop digital indicator

Panel instrument for industrial signal display and process supervision.



Display	Dual LED
Input types	35 input types
Accuracy	0.2% FS
Alarm outputs	0-4
Analogue outputs	0-3
Communication	RS232 / RS485
Supply	100-240 VAC or 20-29 VDC

SG-HMI-122

Panel Process Indicator and Totalizer

Flow totalizer

Panel instrument for industrial signal display and process supervision.



Display	Dual LED
Input types	35 input types
Accuracy	0.2% FS
Alarm outputs	0-2
Analogue outputs	0-3
Communication	RS232 / RS485
Supply	100-240 VAC or 12-36 VDC

SG-TMP-174

Programmable temperature transmitter module

Converts common temperature inputs into an analogue process signal.



Operating environment	-40 to +80 °C
Output options	4-20 mA, 1-5 V or 1-10 V
Input	Common temperature input types
Configuration	USB programming
Electrical connection	Wire terminals

SG-TMP-175

Direct-lead thermocouple

Temperature sensing for connection to a transmitter or secondary measuring instrument.



Measuring temperature	0 to +200 °C, depending on selected element
Signal type	Thermocouple
Sensing element options	Thermocouple; type selected by configuration
Protective material	304 stainless steel; other materials configurable
Protection	IP68
Application	Steam pipelines and boiler water

SG-TMP-176

Surface-mounted resistance temperature sensor

Temperature sensing for connection to a transmitter or secondary measuring instrument.



Measuring temperature	-50 to +200 °C
Signal type	Resistance
Sensing element options	Pt100 or Pt1000
Protective material	304 stainless steel; other materials configurable
Protection	IP65 or IP68 configuration
Application	Pipelines and tanks

SG-TMP-177

Direct-lead resistance temperature sensor

Temperature sensing for connection to a transmitter or secondary measuring instrument.



Measuring temperature	-50 to +200 °C
Signal type	Resistance
Sensing element options	Pt100 or Pt1000
Protective material	304 stainless steel; other materials configurable
Protection	IP65 or IP68 configuration
Application	General temperature measurement

SG-TMP-178

Armoured thermocouple with junction box

Temperature sensing for connection to a transmitter or secondary measuring instrument.



Measuring temperature	0 to +1600 °C
Signal type	Thermocouple
Sensing element options	B, E, J, K, N, R, S or T
Protective material	304 stainless steel; other materials configurable
Protection	IP65
Application	Boilers, furnaces and ovens

SG-TMP-179

Armoured resistance temperature sensor

Temperature sensing for connection to a transmitter or secondary measuring instrument.



Measuring temperature	-200 to +450 °C
Signal type	Resistance
Sensing element options	Pt100
Protective material	304 stainless steel; other materials configurable
Protection	IP65
Application	General temperature measurement

SG-TMP-180

Temperature probe with transmitter head

Interfaces an industrial temperature sensing element with a control or monitoring system.



Sensing element options	J, K, E or T thermocouple; Pt100 or Cu50 resistance
Material options	SS304, SS316 or SS316L
Measuring temperature	-200 to +600 °C, according to sensing element
Output	4-20 mA, two wires
Communication	HART
Supply	24 VDC; 12-36 VDC range
Insertion length	Greater than 30 mm and less than 500 mm
Connection protection	IP65

SG-VIB-114

Industrial Accelerometer for Vibration Monitoring

Top connector with temperature measurement

IEPE accelerometer with an isolated case and temperature output for machinery condition monitoring.



Sensitivity	100 mV/g (±10%)
Acceleration range	±80 g peak
Frequency response	0.7-10000 Hz (±10%)
Excitation	18-30 VDC; 24 VDC typical
Constant current	2-20 mA; 4 mA typical
Case material	316L stainless steel
Protection	IP68
Operating temperature	-55 to +125 °C
Mounting	M6 × 1
Weight	86 g

Use the M6 mounting thread with approximately 2.7-6.8 N·m mounting torque.

SG-VIB-115

Industrial Vibration Monitoring Accelerometer

Side connector with temperature measurement

IEPE accelerometer with an isolated case and temperature output for machinery condition monitoring.



Sensitivity	100 mV/g (±10%)
Acceleration range	±80 g peak
Frequency response	0.7-7000 Hz (±10%)
Excitation	18-30 VDC; 24 VDC typical
Constant current	2-20 mA; 4 mA typical
Case material	316L stainless steel
Protection	IP68
Operating temperature	-55 to +125 °C
Mounting	M6 × 1
Weight	126 g

Use the M6 mounting thread with approximately 2.7-6.8 N·m mounting torque.

SG-VIB-116

Advanced Vibration Monitoring Accelerometer

Top connector with temperature measurement

IEPE accelerometer with an isolated case and temperature output for machinery condition monitoring.



Sensitivity	500 mV/g (±10%)
Acceleration range	±10 g peak
Frequency response	0.2-5000 Hz (±10%)
Excitation	18-30 VDC; 24 VDC typical
Constant current	2-20 mA; 4 mA typical
Case material	316L stainless steel
Protection	IP68
Operating temperature	-55 to +125 °C
Mounting	M6 × 1
Weight	102 g

Use the M6 mounting thread with approximately 2.7-6.8 N·m mounting torque.

SG-WQA-102

Online Density Meter

Top-mount density meter



Configuration	Top-mount density meter
Measured quantity	Fluid density
Mounting	Top insertion

SG-WQA-103

Online Density Meter

Inline density meter



Configuration	Inline density meter
Measuring range	0-3 g/cm³
Output options	4-20 mA with HART
Process connection	DN50 or DN80 flange; configurable
Accuracy	0.002 g/cm³
Resolution	0.001 g/cm³
Supply	16-36 VDC

SG-AQM-104

Indoor CO2 and Ambient Air Quality Sensor

Indoor LoRaWAN air-quality sensor

Monitors indoor carbon dioxide and ambient conditions.



Measurements	CO2, temperature, relative humidity and pressure
Communication	LoRaWAN
Configuration	Bluetooth 5.1; wireless OTA firmware update
Battery	4000 mAh Li-SOCl2

SG-AQM-119

Wireless Noise Sensor

Wireless noise sensor with external antenna

Measures environmental noise through a wireless field sensor.



Measuring range	30-130 dB
Frequency range	20 Hz-12.5 kHz
Wireless link	2.4 GHz micro-power communication
Antenna	External

SG-AQM-126

Wired RS485 Noise Sensor

Wired noise sensor

Measures environmental noise through an RS485 field sensor.



Measuring range	30-130 dB
Frequency range	20 Hz-12.5 kHz
Communication	Isolated RS485 Modbus
Power supply	9-28 V DC

SG-CTL-128

LoRa Single-Live-Wire Smart Switch Panel

Single-control wall switch panel

Configuration	Single-control wall switch panel
Power wiring	Single live wire
Control	Single channel
Communication	LoRa / LoRaWAN
Installation	86-type wall box
Functions	Remote control

SG-DRV-162

LoRa AC Load Switch

AC-powered relay controller



Configuration	AC-powered relay controller
Relay rating	30 A
Functions	Remote switching and power metering
Antenna	External

SG-DRV-163

4G Dual-Channel Motor Controller

4G controller with two motor channels



Shared enclosure. Communication version as listed.

Configuration	4G controller with two motor channels
Power supply	9-36 VDC
Motor control	Two-channel forward/reverse control
Detection	Position feedback and motor current
Remote communication	4G; built-in data SIM

SG-DRV-164

LoRa Dual-Channel Motor Controller

LoRa controller with two motor channels



Shared enclosure. Communication version as listed.

Configuration	LoRa controller with two motor channels
Power supply	9-36 VDC
Motor control	Two-channel forward/reverse control
Detection	Position feedback and motor current
Functions	Remote control

SG-HMI-114

64x16 LED Dot-Matrix Indicator Display

Wall-mounted LED indicator display

Displays text and graphics on a 64 x 16 LED dot matrix.



Display	64 x 16 LED dot matrix
Communication	RS485 and LoRa
Installation	Wall mounted
Enclosure	Sheet-metal and acrylic construction

SG-LEAK-101

Wireless Water Leak Detection Sensors

Wireless water-leak detector

Detects water contact with a wired two-pin probe.



Communication	LoRaWAN
Reporting	Periodic uplink and open/close event uplink
Configuration	Remote parameters through LoRa downlink
Power	Two AAA batteries

SG-LEAK-123

Wired RS485 Water Leak Detector

Wired water-leak detector

Detects water with a two-electrode probe.



Probe	Two-electrode water-contact probe
Communication	Isolated RS485 Modbus
Probe option	Winding-type water sensing rope supported

SG-TMP-122

Wireless Contact Temperature Sensor and Transmitter

Handheld food-temperature probe

Measures food temperature with an A-grade PT100 probe.



Operating range	-50 to 260 C
Resolution	0.01 C
Accuracy	+/-[0.15 + 0.002 x |t|] C
Communication	LoRaWAN; wireless OTA firmware update

SG-TMP-125

Waterproof Wireless Temperature Logger

Waterproof wireless temperature logger

Logs temperature with a sealed wireless sensor.



Temperature range	-40 to 85 C
Accuracy	+/-0.3 C
Resolution	0.01 C
Protection	IP68
Battery	2400 mAh Li-SOCl2

SG-BMS-101

Online Battery Monitoring System

Current channels: 1

Monitors battery charge/discharge current and ambient temperature.



Current channels	1
Maximum current range	1000 A
Temperature channels	1
Application	Battery charge/discharge monitoring

SG-CTD-101

DC Voltage Sensor

100-1500 V

Converts DC voltage to an analogue monitoring signal.



DC input range	100-1500 V
Output options	4-20 mA, 5 V DC or 10 V DC
Supply options	12 V DC or 24 V DC
Measurement	DC voltage

SG-CTD-119

Hall-Effect Open-Loop Current Sensor

75 A

Dual-channel Hall current sensor.



Channel 1 input	75 A
Channel 2 input	750 A
Channel 1 output	2 V
Channel 2 output	2 V
Measuring aperture	22.5 mm diameter
Supply	5 V DC

SG-CTD-126

Hall-Effect Open-Loop Current Sensor

0-(50-500) A

Hall current sensor for DC current measurement.



Input selections	0-(50-500) A
Output options	±5 V or ±4 V
Measuring aperture	20 mm diameter
Supply options	±12 V DC or ±15 V DC

SG-CTL-101

Air conditioner controller with energy metering

Single phase

Air-conditioning electrical monitoring and infrared control.



Phase	Single phase
Monitoring	Electrical parameters and energy
Control	Infrared air-conditioner control
Switching	Internal circuit disconnection
Interface	RS485

SG-CTL-110

Smart wall control panel (2 to 8 key)

Keys: 2

Two-key wall control panel.



Keys	2
Control functions	Switching, dimming, curtains, scenes and value transmission with a compatible actuator
Mounting	86-type wall box

86-type wall box

SG-CTL-112

Smart wall control panel (2 to 8 key)

Keys: 8

Eight-key wall control panel.



Keys	8
Control functions	Switching, dimming, curtains, scenes and value transmission with a compatible actuator
Mounting	86-type wall box

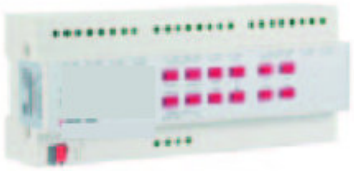
86-type wall box

SG-DRV-103

Multi-Channel Bus Switch Actuator

Switching channels: 16

Multi-channel switching actuator for lighting control.



Switching channels	16
Control functions	Switching, timing, scenes, presets, thresholds and logic
Manual control	Supported
Communication	Bus telegrams
Mounting	DIN rail
Module width	12 modules

DIN rail

SG-DRV-104

Multi-Channel Bus Switch Actuator

Switching channels: 24

Multi-channel switching actuator for lighting control.



Switching channels	24
Control functions	Switching, timing, scenes, presets, thresholds and logic
Manual control	Supported
Communication	Bus telegrams
Mounting	DIN rail
Module width	12 modules

DIN rail

SG-DRV-105

Multi-Channel Bus Switch Actuator

Switching channels: 4

Four-channel switching actuator for lighting control.



Switching channels	4
Control functions	Switching, timing, scenes, presets, thresholds and logic
Manual control	Supported
Communication	Bus telegrams
Mounting	DIN rail
Module width	4 modules

DIN rail

SG-DRV-108

DIN-Rail Bus Switch Actuator

Switching channels: 6

Six-channel switching actuator for lighting control.



Switching channels	6
Control functions	Switching, timing, scenes, presets, thresholds and logic
Manual control	Supported
Communication	Bus telegrams
Mounting	DIN rail
Module width	8 modules

DIN rail

SG-DRV-109

Multi-Channel Bus Switch Actuator

Switching channels: 8

Eight-channel switching actuator for lighting control.



Switching channels	8
Control functions	Switching, timing, scenes, presets, thresholds and logic
Manual control	Supported
Communication	Bus telegrams
Mounting	DIN rail
Module width	8 modules

DIN rail

SG-DRV-112

Multi-Channel 0-10 V Dimming Actuator

Dimming channels: 4

Four-channel analogue dimming actuator.



Dimming channels	4
Dimming interface	0-10 V
Control	Bus-commanded switching and dimming
Manual control	Supported
Mounting	DIN rail
Module width	8 modules

DIN rail

SG-DRV-113

Multi-Channel 0-10 V Dimming Actuator

Dimming channels: 6

Six-channel analogue dimming actuator.



Dimming channels	6
Dimming interface	0-10 V
Control	Bus-commanded switching and dimming
Manual control	Supported
Mounting	DIN rail
Module width	8 modules

DIN rail

SG-DRV-114

Multi-Channel 0-10 V Dimming Actuator

Dimming channels: 2

Two-channel building-control dimming actuator.



Dimming channels	2
Mounting	35 mm DIN rail
Module width	6 modules
Power	Integrated power supply
Power-cycle behaviour	Configurable power-on and power-off state

35 mm DIN rail

SG-DRV-125

DIN-Rail Bus Switch Actuator

Switching channels: 4

Four-channel building-control switching actuator.



Switching channels	4
Mounting	35 mm DIN rail
Module width	6 modules
Power	Integrated power supply
Auxiliary supply	Supports 4 panels and 2 sensors
Power-cycle behaviour	Configurable power-on and power-off state

35 mm DIN rail

SG-DRV-127

DIN-Rail Bus Switch Actuator

Switching channels: 8

Eight-channel building-control switching actuator.



Switching channels	8
Mounting	35 mm DIN rail
Module width	10 modules
Power	Integrated power supply
Power-cycle behaviour	Configurable power-on and power-off state

35 mm DIN rail

SG-EFD-101

Arc Fault Detection Device

0-40 A

Detects fault arcs and monitors electrical conditions in a single-phase circuit.



Current range	0-40 A
Residual-current channels	1
Temperature channels	2
Measured values	Voltage, current, power and energy
Relay output	1
Interface	RS485
Display	LCD
Mounting	DIN rail

DIN rail

SG-EFD-175

Intelligent Residual Current Relay

1 AC channel

DIN-rail residual-current relay with local and remote testing.



Residual-current measurement	1 AC channel
Trip-current settings	10
Non-operating-delay settings	10
Relay outputs	2 configurable groups
Control	Local/remote test and reset
Mounting	DIN rail

DIN rail

SG-EFD-176

Intelligent Residual Current Relay

1 AC channel

DIN-rail residual-current relay with overrange indication.



Residual-current measurement	1 AC channel
Trip-current settings	4
Non-operating-delay settings	2
Relay outputs	2 groups
Control	Local/remote test and reset
Mounting	DIN rail

DIN rail

SG-EFD-177

Intelligent Residual Current Relay

1 AC channel

Panel residual-current relay with local and remote testing.



Residual-current measurement	1 AC channel
Trip-current settings	10
Non-operating-delay settings	10
Relay outputs	2 configurable groups
Panel size	48 × 48 mm
Panel cutout	45 × 45 mm
Control	Local/remote test and reset

SG-EFD-178

Intelligent Residual Current Relay

1 AC channel

Panel residual-current relay with overrange indication.



Residual-current measurement	1 AC channel
Trip-current settings	4
Non-operating-delay settings	2
Relay outputs	2 groups
Panel size	48 × 48 mm
Panel cutout	45 × 45 mm
Control	Local/remote test and reset

SG-EFD-179

Multi-Channel Residual Current Monitor

Up to 16

Multi-channel residual-current controller with event recording.



Residual-current channels	Up to 16
Alarm relay outputs	16 residual-current alarms plus 1 flooding alarm
Digital inputs	2
Interface	1 × RS485
Event storage	50 records
Reclosing	Configurable delay and attempt count

SG-EFD-191

Intelligent Residual Current Relay

1 A-type channel

LCD residual-current relay with event recording.



Residual-current measurement	1 A-type channel
Trip settings	Configurable current and non-operating delay
Relay outputs	2 groups
Display	LCD residual-current and pre-alarm settings
Event storage	25 records
Control	Local/remote test and reset
Interface option	RS485
Mounting	DIN rail

DIN rail

SG-EM-129

DIN-Rail Single-Phase Energy Meter

Single phase

Single-phase meter for electrical parameters and active energy.



Phase	Single phase
Measured values	Voltage, current, active/reactive/apparent power, power factor and frequency
Direct-connected current rating	0.5-1(80) A
Active-energy accuracy	Class B
Tariff option	Multi-tariff module

SG-EM-130

Dormitory Prepaid Energy Management Meter

Measurement channels: 2

Two-channel meter with electrical measurement and load control.



Measurement channels	2
Direct-connected current rating	0.2-0.5(30) A
Active-energy accuracy	Class B
Interface	1 × RS485 / Modbus
Control	Tariff, time and load control
Load switching	Integrated circuit breaker

SG-EM-139

Single-Phase Prepayment Energy Meter

Single phase

Single-phase meter with remote load switching and Modbus communication.



Phase	Single phase
Direct-connected current rating	0.4-1(60) A
Active-energy accuracy	Class B
Interface	1 × RS485 / Modbus
Load switching	Magnetic latching relay
Control	Tariff, time and load control
Tariff option	Multi-tariff module

SG-EM-201

Single-phase DIN-rail energy meter

Single-phase RS485 Modbus meter

Single-phase electrical and energy measurement in a compact modular housing.



Phase	Single phase
Nominal voltage	230 V AC
Maximum direct-connected current	100 A
Width	36 mm; 2 modules
Measurement	Energy, active/reactive/apparent power, power factor, frequency, voltage and current
Energy direction	Bidirectional
Pulse outputs	2
Communication	RS485 Modbus RTU
Active-energy accuracy	Class 1
Operating temperature	-25 to +55 °C

SG-EM-205

Single-Phase Three-Wire kWh Meter

Single-phase three-wire meter

Direct-connected meter for active-energy measurement in a single-phase three-wire circuit.



Wiring	Single phase, three wire
Nominal voltage options	110/220 V AC or 220/380 V AC
Maximum direct-connected current	100 A
Width	4 modules
Measured value	Active energy
Pulse output	1600 impulses/kWh
Active-energy accuracy	Class 1
Frequency	50 or 60 Hz
Dimensions	76 × 100 × 66 mm
Mounting	35 mm DIN rail

35 mm DIN-rail mounting.

SG-EM-206

Three-Phase DIN-Rail Multi-Tariff Energy Meter

Three-phase RS485 Modbus meter

Three-phase four-wire meter for electrical parameters and bidirectional energy.



Wiring	Three phase, four wire
Nominal voltage	3 × 230/400 V AC
Maximum direct-connected current	100 A
Width	7 modules
Measurement	Energy, active/reactive/apparent power, power factor, frequency, voltage and current
Energy direction	Bidirectional
Pulse outputs	2
Communication	RS485 Modbus RTU
Active-energy accuracy	Class 1
Operating temperature	-25 to +55 °C

SG-EML-101

Centrally Powered and Controlled Evacuation Indicator Luminaire

Centralized power supply; centralized control

Illuminated tunnel evacuation sign with centralized control and operating-status reporting.



Product	Tunnel evacuation indicator
Power architecture	Centralized power supply
Control	Centralized control
Status reporting	Real-time operating status
Application	Highway-tunnel illuminated signage

SG-EML-102

Centrally Powered and Controlled Evacuation Indicator Luminaire

Centralized power supply; centralized control

Illuminated tunnel evacuation sign with centralized control and operating-status reporting.



Product	Tunnel evacuation indicator
Power architecture	Centralized power supply
Control	Centralized control
Status reporting	Real-time operating status
Application	Highway-tunnel illuminated signage

SG-EML-103

Centrally Controlled Emergency Evacuation Sign Luminaire

Centralized power supply; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Centralized power supply
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-104

Centrally Controlled Emergency Evacuation Sign Luminaire

Centralized power supply; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Centralized power supply
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-105

Centrally Controlled Emergency Evacuation Sign Luminaire

Centralized power supply; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Centralized power supply
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-106

Centrally Controlled Emergency Evacuation Sign Luminaire

Centralized power supply; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Centralized power supply
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-107

Centrally Controlled Emergency Evacuation Sign Luminaire

Centralized power supply; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Centralized power supply
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-109

Centrally Controlled Emergency Evacuation Sign Luminaire

Centralized power supply; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Centralized power supply
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-110

Centrally Controlled Emergency Evacuation Sign Luminaire

Centralized power supply; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Centralized power supply
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-145

Self-contained battery evacuation luminaire, centrally controlled

Product: Evacuation luminaire

Centrally controlled emergency luminaire with a self-contained battery.



Product	Evacuation luminaire
Power architecture	Self-contained battery
Control	Centralized control; on/off command
Status reporting	Real-time operating status

SG-EML-148

Centrally Controlled Emergency Evacuation Sign Luminaire

Centralized power supply; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Centralized power supply
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-149

Centrally Controlled Emergency Evacuation Sign Luminaire

Centralized power supply; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Centralized power supply
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-150

Centrally Controlled Emergency Evacuation Sign Luminaire

Self-contained battery; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Self-contained battery
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-151

Centrally Controlled Emergency Evacuation Sign Luminaire

Self-contained battery; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Self-contained battery
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-152

Centrally Controlled Emergency Evacuation Sign Luminaire

Self-contained battery; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Self-contained battery
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EML-153

Centrally Controlled Emergency Evacuation Sign Luminaire

Self-contained battery; centralized control

Evacuation sign with remote flashing, direction control and operating-status reporting.



Product	Evacuation indicator
Power architecture	Self-contained battery
Control	Centralized control
Status reporting	Real-time operating status
Remote functions	Flashing control and direction adjustment

SG-EVC-123

Split-Type DC Fast Charging Stack

250 A

EV charging terminal with a touchscreen and payment control.



Maximum terminal current	250 A
Charging connectors	1
Display	7-inch LCD touchscreen
Payment	QR-code scan or card

SG-EVC-145

7 kW AC EV Charging Station

230 V

AC vehicle charger with one charging connection.



AC voltage	230 V
Output power	7 kW
Charging connectors	1
Cable length	5 m
Display	LED

SG-HMI-104

Wireless Temperature Monitoring Display Host

Up to 60

Panel instrument for wireless temperature monitoring and alarms.



Temperature sensors	Up to 60
Supply	85-265 V AC or 100-300 V DC
Power consumption	8 W
Interface	RS485 / Modbus
Digital inputs	4 × internally supplied 12 V inputs
Alarm outputs	2 passive outputs
Panel cutout	92 × 92 mm
Panel dimensions	96 × 96 mm

SG-HMI-105

Smart Wall Touch Panel, 4-Inch

Display: 4-inch touchscreen

Touch panel for multi-circuit building control.



Display	4-inch touchscreen
Application	Areas with multiple control circuits
Typical locations	Meeting rooms and studios
Mounting	86-type wall box

86-type wall box

SG-IMD-102

Coupling Unit for DC Insulation Monitoring

50-1000 V

Coupling device for DC unearthed-system insulation monitoring.



DC system range	50-1000 V
Measurement	System-to-earth insulation resistance
Application	DC unearthed systems
Role	Coupling unit for an insulation monitor

SG-MCM-145

End-Circuit Power Monitoring Modules

Single phase

Compact wireless module for single-phase electrical monitoring.



Phase	Single phase
Rated current	32 A
Input	Direct connection
Wireless band	2.4 GHz
Dimensions	44 × 18 × 17 mm
Monitoring	Voltage, current, power, energy and internal temperature

SG-NODE-101

Composite Wireless Sensor Node

-50 to +125 °C

Wireless monitoring of cable temperature and current.



Temperature range	-50 to +125 °C
Temperature accuracy	±1 °C
AC current range	1-400 A
Current accuracy	1% FS
Power	Inductive pickup from 2.5 A, or replaceable battery
Measurement interval	10-30 s with inductive power; 3 min with battery
Transmission distance	150 m in open space
Installation	Clips onto 6-29 mm cables

Clips onto 6-29 mm cables

SG-OCC-101

Combined Illuminance and Occupancy Bus Sensor

Infrared movement and illuminance

Ceiling sensor combining movement and light detection.



Detection	Infrared movement and illuminance
Sensor functions	2
Control	Bus signal to the lighting actuator
Installation	Recessed ceiling mounting

Recessed ceiling mounting

SG-OCC-102

Combined Illuminance and Occupancy Bus Sensor

Infrared movement, illuminance, temperature and humidity

Ceiling sensor combining movement and environmental measurements.



Detection	Infrared movement, illuminance, temperature and humidity
Sensor functions	4
Control	Bus signal to the lighting actuator
Installation	Recessed ceiling mounting

Recessed ceiling mounting

SG-OCC-103

Combined Illuminance and Occupancy Bus Sensor

Microwave movement and illuminance

Ceiling sensor combining microwave movement and light detection.



Detection	Microwave movement and illuminance
Sensor functions	2
Control	Bus signal to the lighting actuator
Installation	Recessed ceiling mounting

Recessed ceiling mounting

SG-OCC-105

Combined motion and illuminance sensor

Infrared movement and illuminance

Recessed ceiling sensor for movement and illuminance.



Detection	Infrared movement and illuminance
Sensor functions	2
Control	Processed sensor signal to the lighting actuator
Installation	Recessed mounting
Ceiling cutout	60 mm diameter

Recessed mounting

SG-PM-116

Three-Phase Network Power Monitoring Meters

Three phase

Panel meter for three-phase electrical parameters and four-quadrant energy.



Phase	Three phase
Measured values	Current, voltage, active/reactive power, energy, frequency and power factor
Energy	Four-quadrant measurement
Interface	RS485 / Modbus
Display	LCD
Panel size	84 × 84 mm
Panel cutout	76 × 76 mm
Depth	98 mm

SG-PM-120

Three-Phase Network Power Monitoring Meters

Three phase

Three-phase panel meter with harmonic analysis and energy measurement.



Phase	Three phase
Energy	Four-quadrant measurement
Harmonics	2nd-63rd harmonic components
Interface	RS485 / Modbus
Display	Backlit dot-matrix LCD
Panel size	96 × 96 mm
Panel cutout	88 × 88 mm
Depth	92 mm

SG-PM-123

Three-Phase Network Power Monitoring Meters

Three phase

Large-panel three-phase meter with harmonic and energy measurement.



Phase	Three phase
Energy	Four-quadrant measurement
Harmonics	2nd-63rd harmonic components
Interface	RS485 / Modbus
Display	Backlit dot-matrix LCD
Panel size	120 × 120 mm
Panel cutout	108 × 108 mm
Depth	92 mm

SG-PM-240

Three-Phase Power Analyser

Three-phase RS485 Modbus meter

Modular three-phase power analyser with bidirectional energy and harmonic measurement.



Wiring options	3P4W, 3P3W or 1P2W
Nominal voltage	3 × 230/400 V AC
Maximum direct-connected current	100 A
Width	4 modules
Measurement	Energy, power, power factor, frequency, voltage, current and THD
Energy direction	Bidirectional
Pulse outputs	2
Communication	RS485 Modbus RTU
Active-energy accuracy	Class 1
Operating temperature	-25 to +55 °C

SG-PM-241

Dual-Circuit Multifunction Power Meter

Dual-load meter; 5 A CT input shown

Two-load energy meter with Modbus communication and configurable pulse outputs.



Loads	2 metering circuits in one device
CT input shown	5 A
Nominal voltage	3 × 230/400 V AC
Measurement	Multiple electrical parameters
Pulse outputs	2, configurable by load
Communication	RS485 Modbus RTU
Baud rate	2400-38400 bit/s
Active-energy accuracy	Class 1
Operating temperature	-25 to +55 °C
Ingress protection	IP51 for indoor use

SG-PRD-105

Anti-Islanding Protection Relay

Distributed PV and energy-storage generation

Protection relay for distributed photovoltaic and energy-storage generation.



Application	Distributed PV and energy-storage generation
Current input channels	4 AC channels
Protection	Three-stage overcurrent and zero-sequence overcurrent
Additional protection	Overvoltage, undervoltage, frequency and anti-islanding
Monitoring	PT disconnection and control-circuit faults

SG-PRD-187

Arc-Light Sensor for Arc-Flash Protection

Visible arc light

Passive optical sensor for arc-flash detection.



Detection	Visible arc light
Power	No external power required
Optical connection	Duplex flame-retardant optical fibre
Application	Switchgear arc protection

SG-PRD-188

Arc-Light Sensor for Arc-Flash Protection

Visible and partial ultraviolet arc light

Optical-fibre arc sensor for visible and partial ultraviolet light.



Detection	Visible and partial ultraviolet arc light
Optical connector	ST
Power	No external power required
Optical connection	Duplex flame-retardant optical fibre

SG-PRD-189

Switchgear Integrated Measurement and Control Device

Dynamic primary-circuit mimic diagram

Switchgear status indicator with temperature and humidity control.



Indication	Dynamic primary-circuit mimic diagram
Interlocking	Live indication with 2 interlock outputs
Environmental control	1 temperature/humidity channel
Alarms	Heater-circuit fault and power failure
Interface	RS485 / Modbus
Panel size	120 × 180 mm
Panel cutout	112 × 172 mm

SG-PSU-102

Bus system power supply with choke and short-circuit protection

KNX / EIB

Bus power supply for lighting and building control.



Bus system	KNX / EIB
Function	Bus power and signal coupling
Reset	Bus reset function
Protection	Overcurrent indication and short-circuit protection
Mounting	DIN rail
Module width	6 modules

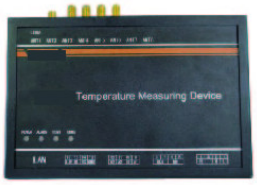
DIN rail

SG-RFID-101

Multi-Channel Wireless Sensor Receiver

Antenna channels: 4

Four-antenna receiver for wireless temperature sensors.



Antenna channels	4
Supply	85-265 V AC or 100-300 V DC
Serial interfaces	2 × RS485 and 1 × TTL
Network interface	1 × Ethernet
Alarm outputs	2 digital outputs
Mounting	35 mm DIN rail

35 mm DIN rail

SG-THS-101

Wireless Temperature Sensor, DIN-Rail Mount

-30 to +85 °C

Wireless sensor for temperature and relative humidity.



Temperature range	-30 to +85 °C
Humidity range	0-100% RH
Temperature accuracy	±1 °C
Humidity accuracy	±3% RH
Sampling interval	25 s
Mounting	35 mm DIN rail

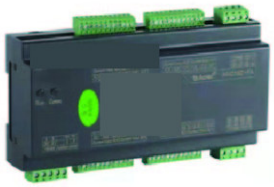
35 mm DIN rail

SG-TMP-103

Multi-Channel Temperature Inspection Instruments

Temperature inputs: 24

Multi-channel temperature scanner with Modbus communication.



Temperature inputs	24
Input types	PT100, PT1000, NTC and K/T/J/E/N thermocouples
Additional measurement	1 channel of humidity
Temperature accuracy	±1 °C
Interface	RS485 / Modbus
Alarm outputs	2 relay channels
Supply options	85-265 V AC, 100-300 V DC or 12-30 V DC
Mounting	35 mm DIN rail

35 mm DIN rail

SG-TMP-105

8-Channel Temperature Scanner

Temperature inputs: 8

Eight-channel temperature scanner with analogue and alarm outputs.



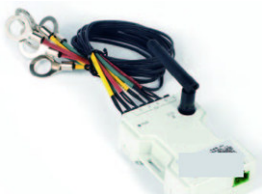
Temperature inputs	8
Input types	PT100, PT1000, NTC, thermocouple or 0-5 V
Temperature accuracy	±1 °C / 1%
Voltage accuracy	Class 0.5
Interface	RS485 / Modbus
Alarm outputs	5
Analogue outputs	3 × 4-20 mA
Panel cutout	92 × 92 mm

SG-TMP-107

Wireless Electrical Contact Temperature Sensor

1-6 selectable

Wireless transmitter for multiple temperature probes.



Probe inputs	1-6 selectable
Temperature range	-40 to +140 °C
Temperature accuracy	±1 °C
Sampling interval	300 ms per channel
Wireless bands	433 MHz / 510 MHz
Transmission interval	1-240 s
Transmission distance	1000 m in open space
Supply	85-265 V AC or 100-300 V DC

SG-VT-101

Low-Voltage Instrument Voltage Transformer

(100-800) V / 100 V

Voltage transformer for electrical measurement.



Rated voltage ratio	(100-800) V / 100 V
Rated frequency	50-60 Hz
Accuracy class	0.5
Rated burden	15 VA
Limiting output	100 VA
Rated insulation	3 kV

SG-DRV-118

DIN-Rail Lighting Switch Actuator

12-channel, 14-module lighting actuator

Switches lighting circuits from a DIN-rail mounted actuator.



Channels	12
Installation	35 mm DIN rail; 14-module width
Communication	Modbus RTU
Power	Built-in power supply

SG-EM-218

Single-Phase Direct-Connected AMI Smart Meter

Single-phase direct-connected smart meter

Measures residential energy with a modular smart meter.



Connection	Single phase; 1P2W; direct connected
Energy	Import/export kWh and kvarh; four-quadrant reactive energy
Display	Backlit LCD
Events	Up to 500 records per event kind

SG-EM-219

Three-Phase Direct-Connected AMI Smart Meter

Three-phase direct-connected smart meter

Measures three-phase energy with a modular smart meter.



Connection	3P4W or 3P3W; direct connected
Energy	Import/export kWh and kvarh; four-quadrant reactive energy
Display	Backlit LCD
Events	Up to 100 records per event kind

SG-EM-220

Three-phase CT-connected AMI smart meter

Three-phase CT-connected smart meter

Measures three-phase energy with indirect current-transformer connection.



Connection	3P4W or 3P3W; indirect connected
Energy	Import/export total and net kWh; kvarh
Display	Backlit LCD
Events	Up to 100 records per event kind

SG-FDM-101

Fire Door Linkage Module

Fire-door linkage module

Links fire-door equipment to the fire-alarm monitoring logic.



Function	Fire-door equipment linkage control
Communication	Two-wire bus
Alarm handling	Reports fire-alarm information to the monitor

SG-FDM-102

Fire Door Monitoring Zone Sub-Panel

Zone panel without backup battery

Extends fire-door monitoring across a local zone.



Capacity	Up to 64 monitoring points
Power supply	220 V AC, 50 Hz, +/-15%
Rated power	Up to 100 W
Dimensions	360 x 270 x 110 mm

SG-PRD-176

Switchgear Partial Discharge Monitoring Device

Wired partial-discharge monitor

Monitors partial-discharge signals and local environmental conditions in switchgear.



Communication	RS485 Modbus RTU
Power supply	12-36 V DC
Sampling period	4 seconds
Installation	Magnetic attachment

SG-PRD-178

Switchgear Partial Discharge Monitoring Device

Powered wireless partial-discharge monitor

Monitors partial-discharge signals and local environmental conditions in switchgear.



Communication	LoRa
Power supply	12-36 V DC
Sampling period	15 seconds
Installation	Magnetic attachment

SG-PRS-106

24 V DC Damper Actuator

24 V DC damper actuator

Operates the air damper in a residual-pressure monitoring system.



Power supply	24 V DC
Power consumption	Up to 7 W
Operating temperature	-10 to 50 C
Function	Damper actuation from pressure-control commands

SG-TRK-101

Vehicle and Asset Tracking Terminal

LTE Cat.1 fleet hub, Europe configuration

Vehicle tracking terminal with GNSS, configurable I/O and vehicle-bus data interfaces.



Positioning	GPS and GLONASS, 72-channel engine
Position accuracy	2.5 m CEP, 50%
Cellular	LTE FDD Cat.1; B1/B3/B7/B8/B20
Fallback	GSM 900/1800 MHz
Supply	12/24 V vehicle system
Digital inputs	Up to eight, configurable
Digital outputs	Up to five, configurable
Analogue inputs	Up to three, configurable
Dimensions	152 × 98 × 30 mm

Install using the screw mounting bracket or adhesive mounting method.

SG-TRK-102

Waterproof Asset and Fleet Tracker

Waterproof vehicle and asset tracker

Tracks vehicles and mobile assets with GNSS and cellular communication.



Positioning	GPS and GLONASS
Position accuracy	2.5 m CEP, 50%
Cellular options	LTE Cat.1 or Cat.M, selected by regional configuration
Data protocols	UDP/IP, TCP/IP, SMS over IMS and MQTT
Supply	12/24 V vehicle systems; 8-90 V electric-vehicle configuration
Protection	IP67
Motion sensor	3-axis accelerometer, ±16 g

Mount using the screw tabs and route the moulded harness to the vehicle connection.

SG-TRK-103

Long-Standby GPS Asset Tracker

Battery-powered long-standby asset tracker

Tracks unpowered assets outdoors with GNSS and supports Wi-Fi scanning for indoor location.



Positioning	GPS and GLONASS; Wi-Fi scan
Cellular options	LTE Cat.1 or Cat.M, by regional configuration
Bluetooth	BLE 5.0, long-range support
Battery	Three AA Li-FeS2 cells
Battery life	Up to 8 years with a daily report interval
Protection	IP67 and IP69K
Operating temperature	-40 to +60 °C
Dimensions	118 × 65 × 28 mm

Use screws or bolts; a magnet mount is optional.

SG-TRK-104

LoRaWAN GPS Asset Tracker

LoRaWAN GPS tracker

Reports location and motion from a compact tracker.



Positioning	GPS, Bluetooth and Wi-Fi
Motion sensing	Built-in three-axis accelerometer
Controls	Alarm button and tri-colour LED
Communication	LoRaWAN

SG-TRK-105

LoRaWAN GPS Asset Tracker

Solar-assisted LoRaWAN asset tracker

Reports location and motion from a solar-assisted asset tracker.



Positioning	GPS, Bluetooth and Wi-Fi
Motion sensing	Built-in three-axis accelerometer
Power	Rechargeable lithium-ion battery and solar panel
Charging	USB

SG-MTG-154

Outdoor Monitoring Enclosure

An outdoor enclosure for housing data loggers or power systems.



Use	Housing for data loggers or power systems

SG-MTG-155

Lightning protection devices

Lightning rod and steel base plate for field monitoring installations.



Components	Lightning rod and steel base plate

SG-MTG-161

Stainless Steel Outdoor Monitoring Enclosure

A stainless-steel outdoor enclosure for housing data loggers or power systems.



Use	Housing for data loggers or power systems
Construction	Stainless steel

Interfaces and selection

Match the instrument output to the receiving equipment and the available power supply.

RS485 / Modbus RTU	Match serial settings, instrument address, register map, data type and engineering scaling in the receiving controller.
4-20 mA	Select a compatible current input and loop supply. Set the zero and full-scale engineering values for the chosen transmitter range.
Pulse / contact	Use a compatible counter or digital input. Set the measurement represented by each pulse and check the input electrical limits.
SDI-12	Use a compatible SDI-12 logger and the selected sensor supply. Set a distinct sensor address on the bus.
Cellular IP	Select modem bands and SIM service for the operator. Choose a telemetry unit for signal acquisition or a router for the required network connection.
LoRaWAN	Match the regional frequency plan, network server and device activation settings. Configure the instrument polling and uplink payload.

For product selection

Provide the product reference, required measurement range, installation conditions, available power, receiving interface and destination. For an existing controller, include the relevant input specification or register map.

SunGene Co., Ltd.

Equipment supply for users, distributors and system integrators.

contact@sungene.net

sungeneiot.com

Technical terms

FS	Full scale of the selected measuring range.
DN	Nominal pipe diameter.
RH	Relative humidity.
EC	Electrical conductivity. 1 mS/cm = 1,000 µS/cm.
DC / AC	Direct current / alternating current.