TECO





SG3

High performance Logic Relays
with Ethernet Communication

SG3 Highlights

- Cost effective and easy to install and program for varieties of applications for Industrial , agricultural & building automation.
- SG3 offers extensive communication features with an integrated Ethernet interface. It provides efficient programming, remote monitoring and control of machines & processes.
- SD card Interface for program storage , and data logging with capacity 128MB to 32GB.
  PC programming software
  Remote I/O and I/O link for interfacing SG3 units using Ethernet interface and TECO programming software..





Control ventilation fans and heaters

- Power management
- Heating
- Cooling system
- Ventilation
- Air- Conditioning



Building Automation

- Lighting Control
- Blinds & Gate
- The monitoring of liquid leakage
- Irrigation



Monitor and Control System

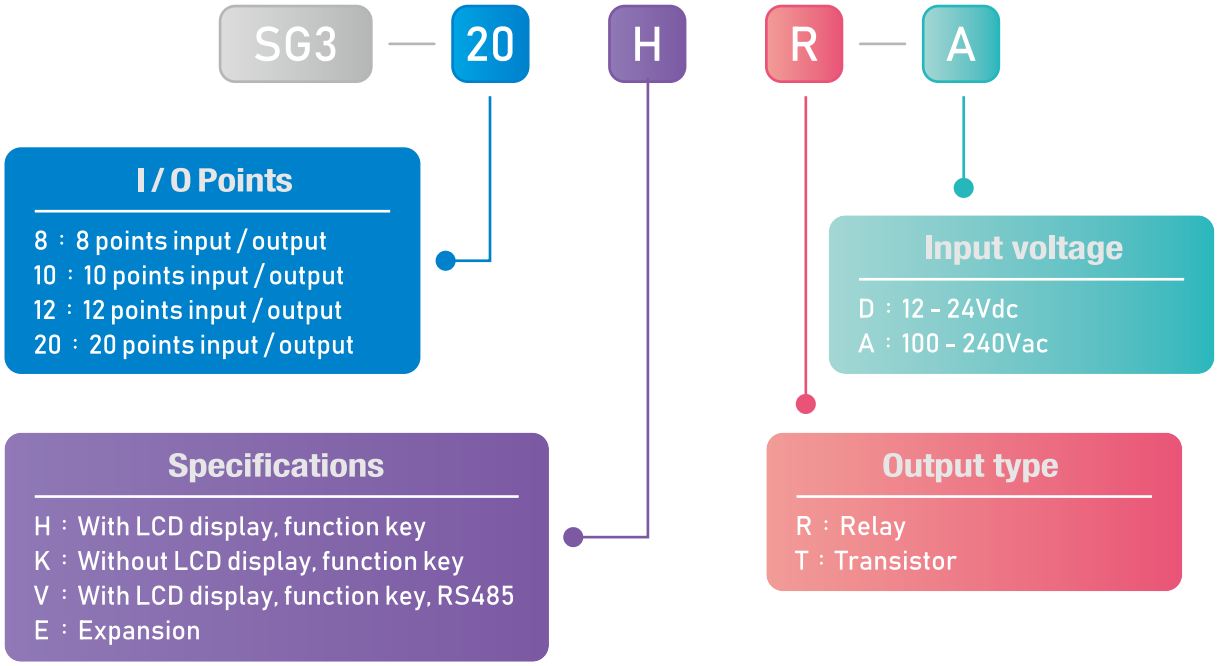
- Access Control
- Alarm System
- Surrounding air and water quality
- Power Energy Saving

Product Feature

10/12/20 points basic module, analog input/output, temperature input, relay or transistor outputs optional.

- Max I/O expansion with 88 inputs and 84 outputs with 9 expansion modules.
- Basic module (V type) built-in Modbus Protocols (TCP&RTU), 8 channel I/O link and remote I/O communication port.
- All units have integrated Ethernet port for program read/write and Modbus TCP master/slave function.
- Email messaging function allows sending of a simple preset Alarm and I/O status message to a predefined email receiver.
- Ethernet and serial communication for remote control and I/O expansion. Modbus communication allows interfacing to other devices.
- Can be used SD card (max 32GB) as an external memory card to read/write user program, event log and configuration files.
- Expansion communication modules: Profibus-DP, DeviceNet, Modbus.
- Built-in 16x4 LCD display and ten languages: English, French, Spanish, Italian, German, Portuguese, Simple Chinese, Polish, Russian and Turkish are selectable.
- Programming languages: Ladder format, max 600 lines, 4 instructions per line. FBD format, max 500 blocks.
- Built-in 31 multi-function timers, 31 sets of counters, 31 RTC comparators and 126 auxiliary, 31 analog compare.
- Built-in RTC (setting summer/winter time change) will be operational up for up 5 years after power off the battery battery installed (CR1220).
- Relay output contact rating max 8A / Transistor output rating max 0.5A.
- Password protection function can be set for two levels. A and B (16 bit password).
- Client PC programming software provides Ladder & FBD program read / write/ monitoring/ server and network set up functions.

Catalog No. Identification



Product Specifications

Content		Specification
Mode of user program		Ladder & FBD
Environmental	Operation temperature	-4° to 122°F (-20° to 50°C)
	Storage temperature	-40° to 158°F (-40° to 70°C)
	Maximum Humidity	90% (Relative, non-condensing)
	Operation Gas	No corrosive gases
Main structure	Maximum Vibration	3.5mm amplitude，1.0g acceleration according to IEC61131-2
	Maximum Impact	Impact resistance：Peak value 15g,11ms according to IEC61131-2
EMI/EMC	ESD	Contact ±4KV, air discharge ±8KV
	EFT	Power AC: ±1KV DC: ±0.5KV
	CS	0.15~80MHz 3V/m
	RS	80-1000MHz 10V/m ,1.4GHz~6GHz:3V/m
	EMI	IEC61131-2、IEC61000-6-4 ClassA
Installation	Enclosure Type	IP20
	Mounting mode	Direct Mounting or DIN-rail (35mm) Mounting
	Direction	According to chapter 2: Installing
Wiring		AWG 14/Ø 2.6mm2
Dimension (WxHxD)		72x90x59.6mm for 10 points basic module 126x90x59.6mm for 20 points basic module 38x90x59.6mm for expansion module
Certification		UL Listed (DC series), UL Recognition(AC series)、CE、UKCA

System Specifications

Main units

	MODEL	Input Power		Input point		Output point	Analog input	RTC	LCD keypad	Expansion ability	High speed input	PWM	I/O LINK
		AC100~240V	DC12~24V										
10/12 points	"Standard" models with Keypad, with display												
	10HR-A	◎		6	4	relay		◎	◎	◎			
	12HR-D		◎	8	4	relay	2	◎	◎	◎	◎		
	12HT-D		◎	8	4	transistor	2	◎	◎	◎	◎	◎	
	OEM "Blind" Models, No Keypad, No Display												
	10KR-A	◎		6	4	relay		◎		◎			
	12KR-D		◎	8	4	relay	2	◎		◎	◎		
	12KT-D		◎	8	4	transistor	2	◎		◎	◎	◎	
20 points	"Standard" models with Keypad, with display												
	20HR-A	◎		12	8	relay		◎	◎	◎			
	20HR-D		◎	12	8	relay	4	◎	◎	◎	◎		
	20HT-D		◎	12	8	transistor	4	◎	◎	◎	◎	◎	
	OEM "Blind" Models, No Keypad, No Display												
	20KR-A	◎		12	8	relay		◎		◎			
	20KR-D		◎	12	8	relay	4	◎		◎	◎		
	20KT-D		◎	12	8	transistor	4	◎		◎	◎	◎	
	High speed communication models												
	20VR-D		◎	12	8	relay	4	◎	◎	◎	◎		◎
	20VT-D		◎	12	8	transistor	4	◎	◎	◎	◎	◎	◎

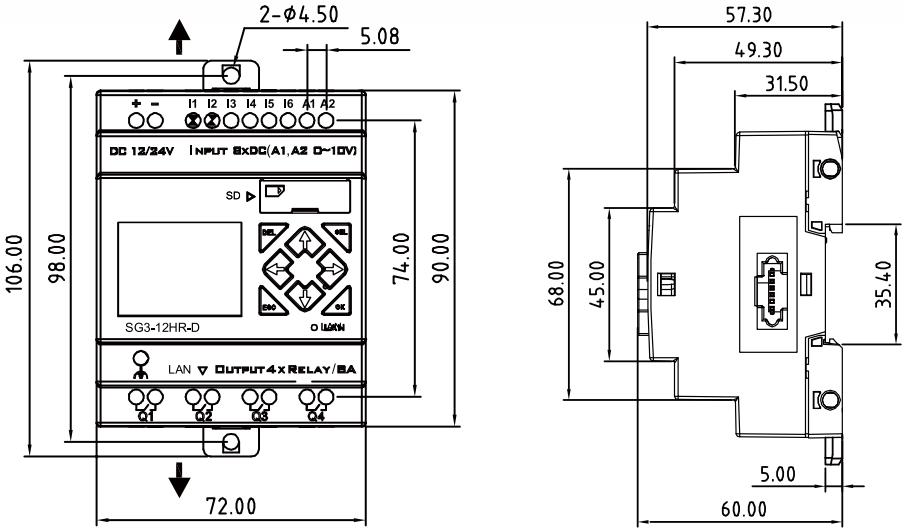
Expansion and option model

Model	Part No.	Instruction
Digital input/output	SG2-8ER-A	Input 100-240Vac, 4 inputs/4 relay outputs
	SG2-8ER-D	Input 24Vdc, 4 inputs/4 relay outputs
	SG2-8ET-D	Input 24Vdc, 4 inputs/4 transistor outputs
Analog input	SG2-4AI	4 points 12 bits voltage/current input (0-10V/0-20mA)
Analog output	SG2-2AO	2 channels output module voltage/current input (0-10V/0-20mA)
Temperature input	SG2-4PT	Temperature input module (4 channels PT-100 type input)
Communication	SG2-PBUS	Profibus communication module (DC24V)
	SG2-DNET	Devicenet communication module (DC24V)
	SG2-MBUS	Modbus communication module (DC24V)
Pulse output	SG3-4HSP*	4 points 100KHz high speed pulse output

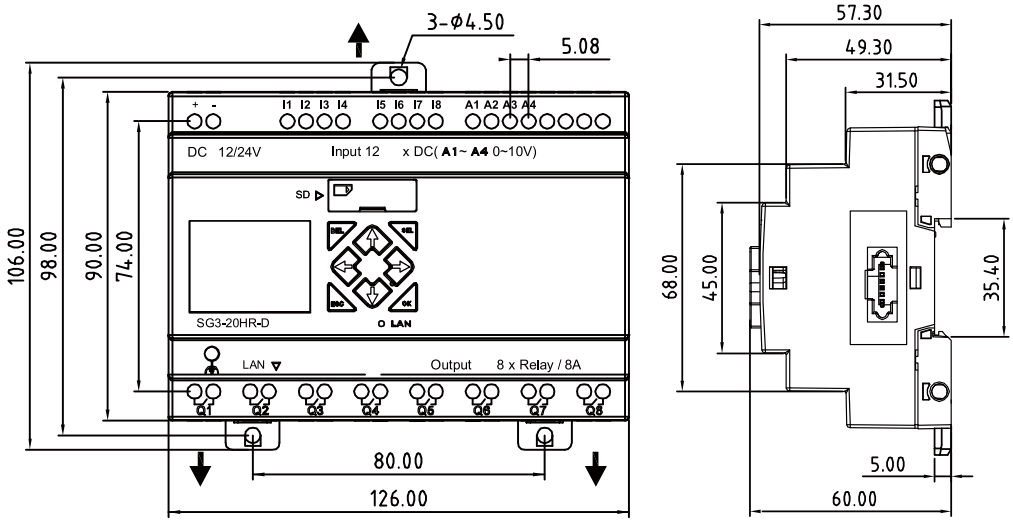
* For Units with Transistor output.

Dimension (unit : mm)

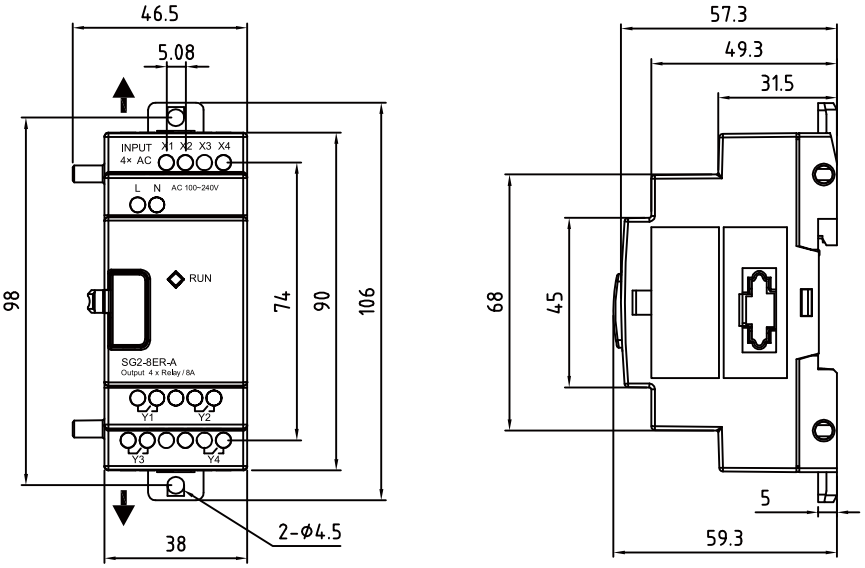
10 / 12 points main unit



20 points main unit



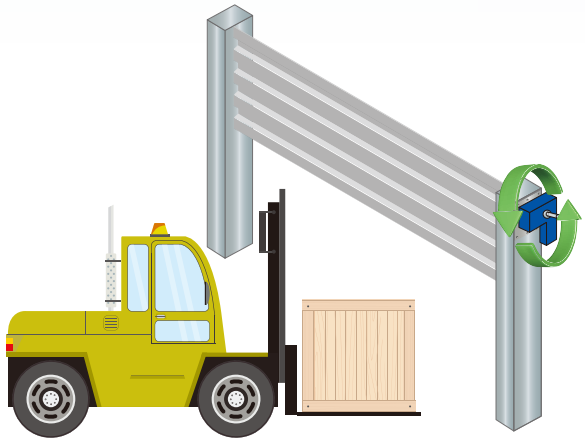
8 points expansion



Typical SG3 applications

Application

- Smart Factory
- Conveyor System
- Security Monitor

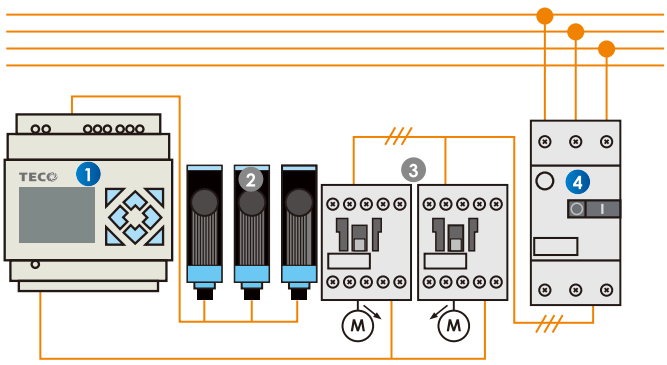


Proximity switches for position indication

- SG3 Can be integrated in automation solutions such as Gate control and Gate monitoring.
- Detection Sensors such as proximity, limit, ultrasonic and photocells can be interfaced to the inputs.
- AC or DC Actuators and motor connectors can be interfaced to the SG3 relay or transistor outputs.
- SG3 client programming software can be used to create user control programs.
- Input/Output Status Monitoring provides an efficient system set up.
- Scheduled start /stop can be programmed using RTC . (Real Time Clock).
- Remote control possibility using the communication features such as Modbus.







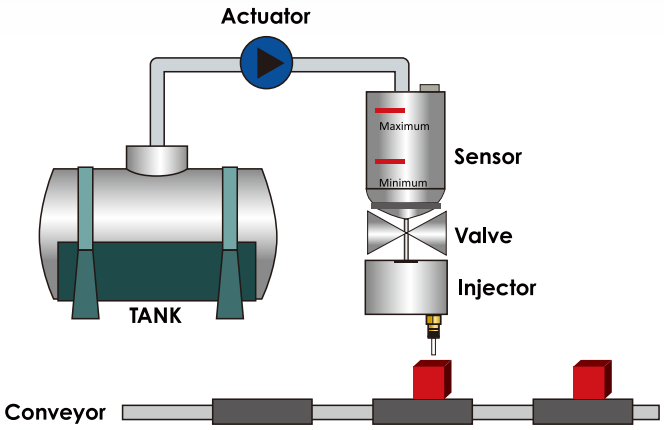
① TECO SG3 ③ Contactor

② Proximity Switches ④ Breaker

Typical SG3 applications

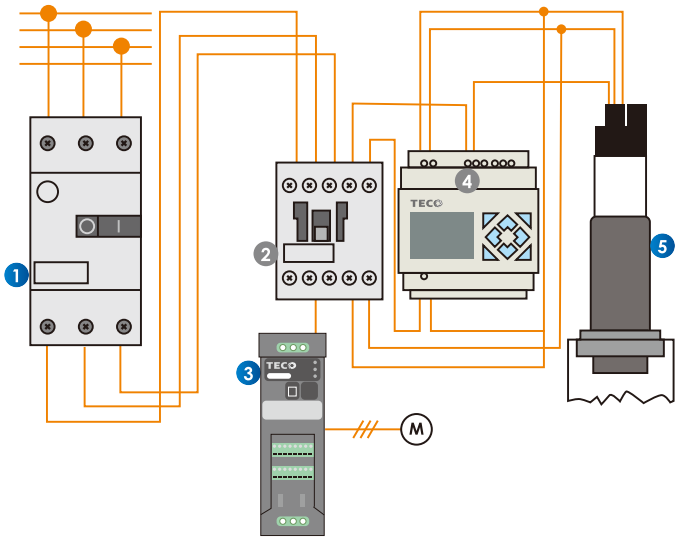
Application

- Process System
- Flow control
- Injector System
  Feeding system



Liquid filing and monitoring

- Fluid level detection by sensors.
- Programmed Process status monitoring and alarms on the SG3 display.
- Scheduled start/stop by RTC.
- PID control of processes.
- Process limit values can be altered using the buttons on the keypad.
- Remote control possibility using the communication features.



① Breaker
② Contactor
③ TECO S510
④ TECO SG3
⑤ Ultra Sonic Sensor





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