

## ST3 Silo Weighing System

### FEATURES

- Appropriate for panel mounting
- RGB Screen with resistive touch controls
- Language Interface available in English, French and Spanish
- Voltage rating: 24 VDC/340 mA
- Powerful 32-bit x86 microprocessor
- Modbus TCP Connection as standard
- Up to 24 (8 weight and 16 temperature) measurements per screen
- Up to 24 silo weight measurements and 48 temperature measurements
- Up to 8 deported casings and deported temperature casings
- Recommended load cell for weighing measurements: 178 extensometer

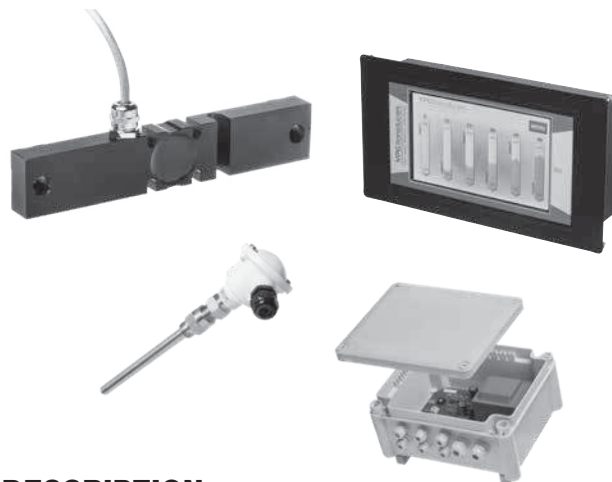
### OPTIONAL

- Ethernet IP connection available
- Up to 4 relay interface casings (16 relay outputs per casing)
- Up to 48 temperature control sensors (PT100)

### APPLICATIONS

- Cement plant – aggregates storage tank
- Water treatment plant – storage/ batching tank

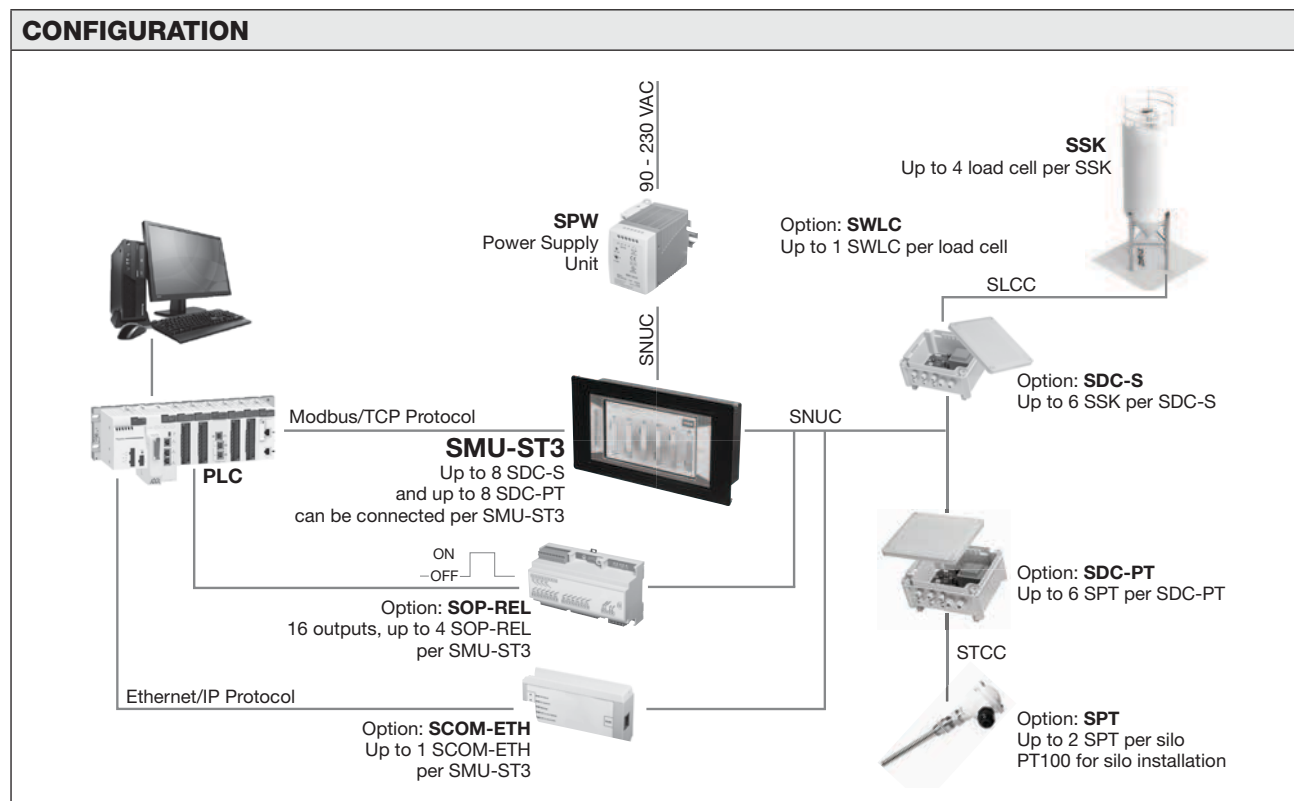
- Agriculture (weighing measurements only) – grain vessel
- F&B industry (weighing measurements only) – dairy storage plant, brewery, filling machine



### DESCRIPTION

Our modern and intuitive system can provide low uncertainty and highly repeatable weighing and temperature measurements. For our ST3 system, it can display both weight and temperature measurements of connected silos. Up to 24 silos can be supported with an option of up to a total of 48 PT100 Temperature Sensors, up to 4 relay interface casings and an Ethernet IP connection.

### CONFIGURATION



## ST3 Silo Weighing System

## SPECIFICATIONS

## ST3 CONTROLLER (SMU-ST3)

## Performance

**Silo Weight Measurement** Up to 24**Temperature Measurement** Up to 48**Microcontroller** Vortex86DX with 32-bit, reprogrammable on-board from USB**Data Storage** 8GB

## Environmental

**Operating Temperature** 0 to +50°C (32 to 122°F)**Storage Temperature** -20 to +70°C (-4 to 158°F)**Maximum Humidity Before Condensation** 90%

## Display and Keyboard

**Display** Tactile RGB Screen**Display Dimensions** 800 x 480 pixels**Keyboard** Touch Screen**Available Languages** English, French and Spanish

## Electrical

**Voltage** 24 VDC**Current Rating** 340 mA**Wattage** 10 W

## Enclosures

**Dimensions without Front Plate** 240 x 120 x 60 mm  
L x H x D (9.45 x 4.72 x 2.36")**Mounting** Panel Mounting**Electrical Connections** 5.08 mm (0.2") removal  
terminal blocks

## POWER SUPPLY UNIT (SPW)

**Input Voltage** 90/230 VAC**Output Voltage** 24 VDC**Power Output** 100 W**Dimensions** 100 x 55 x 90 mm L x H x D  
(3.94 x 2.17 x 3.54")**Mounting** DIN Rail

## DEPORTED CASING - SILO (SDC-S)

**Input Voltage** 24 VDC**Output Voltage** 5 VDC**Wattage** 17 W**Measuring Range** -2.4 to +2.4 mV/V**Input Sensitivity** 0.002 mV**Microcontroller** Microchip PIC32**Data Storage** 2 MB**Dimensions** 190 x 170 x 100 mm L x H x D**Operating Temperature** -10 to +50°C (14 to 122°F)**Storage Temperature** -20 to +70°C (-4 to 158°F)**CAN Bus** Up to 8 Deported Casing can be  
connected on the same bus

## SILO KIT (SSK)

**Junction Box Dimensions** 80 x 80 x 52 mm L x H x D  
(3.15 x 3.15 x 2.05")**Junction Box Material** Polystyrene**Studs Dimensions** 25 x 25 x 12 mm L x H x D  
(0.98 x 0.98 x 0.47")**Studs Thread** 3/8 inches**Studs Material** Steel**Template Dimensions** 178 x 25 x 15 mm L x H x D  
(7.01 x 0.98 x 0.59")**Template Material** Steel

## PT100 TEMPERATURE SENSOR (SPT)

**Material** Stainless steel**Connection** 1/2" male cylindrical gas**Probe Length** 200 mm (7.87")**Dimensions** 300 x 100 x 70 mm L x H x D  
(11.81 x 3.94 x 2.76")**Probe** 3-wire PT100 ceramic IEC 60751 class A**Operating Temperature** -50 to +450°C (-58 to 842°F)**Storage Temperature** -50 to +450°C (-58 to 842°F)

## DEPORTED TEMPERATURE CASING (SDC-S)

**Output Voltage** 24 VDC**Wattage** 6.5 W**Measuring Range** -50 to +150 °C (-58 to 302°F)**Microcontroller** Microchip PIC32**Data Storage** 2 MB**Dimensions** 190 x 170 x 100 mm L x H x D  
(7.48 x 6.69 x 3.94")**Operating Temperature** -10 to +50°C (14 to 122°F)**Storage Temperature** -20 to +70°C (-4 to 158°F)

## WEATHER SHIELD – 178 LOAD CELL (SWLC)

**Dimensions** 600 x 150 x 242 mm L x H x D  
(23.62 x 5.91 x 9.53")**Material** Aluminum**Material Width** 1 mm (0.04")**Mounting** Collar clamping

## ST3 Silo Weighing System

### RELAY INTERFACE CASING (SOP-REL)

**Max Relay Outputs Per Casing** 16  
**Max Relay Output Voltage** 24 VDC  
**Relay Current Rating** 1 Amps  
**Max Switching Power** 30 W  
**Life Expectancy** 100,000 ops  
**Operating Temperature** -10 to +50°C (14 to 122°F)  
**Storage Temperature** -20 to +70°C (-4 to 158°F)  
**Input Voltage** 24 VDC  
**Wattage** 6 W  
**Microcontroller** Microchip PIC32  
**Dimensions** 160 x 90 x 58 mm L x H x D  
(6.30 x 3.54 x 2.28")  
**CAN Bus** Up to 4 Interface Casing can be connected on the same bus

### ETHERNET IP (SCOM-ETH)

**Microcontroller** Atmel CC01  
**Operating Temperature** -10 to +50°C (14 to 122°F)  
**Storage Temperature** -20 to +70°C (-4 to 158°F)  
**Output Voltage** 24 VDC  
**Wattage** 2.5 W  
**Max Simultaneous Connection** 5  
**Max Number of Request** 10 per seconds  
**Electrical Connection** RJ-45  
**Connection Speed** 10 to 100 mbps  
**Dimensions** 125 x 70 x 30 mm L x H x D  
(4.92 x 2.76 x 1.18")

### RECOMMENDED LOAD CELLS

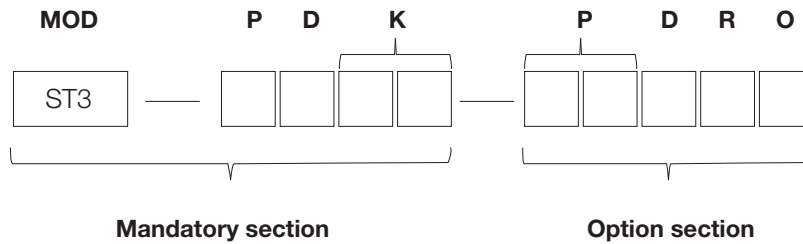
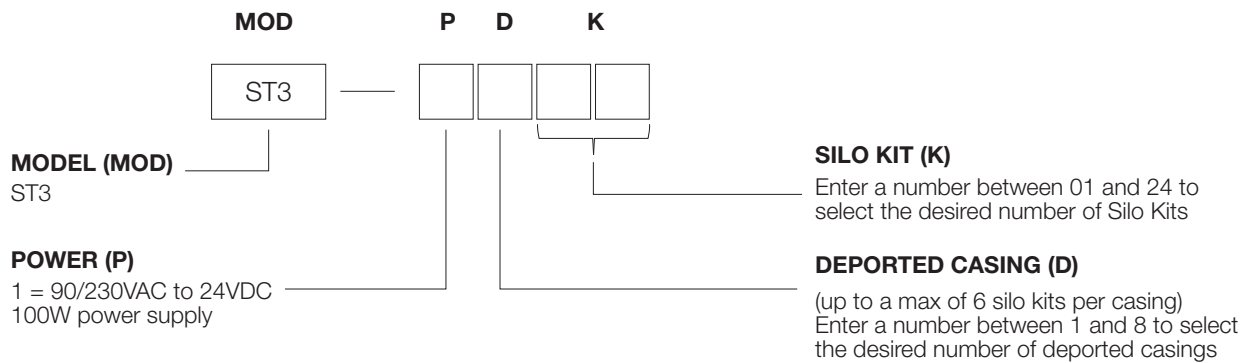
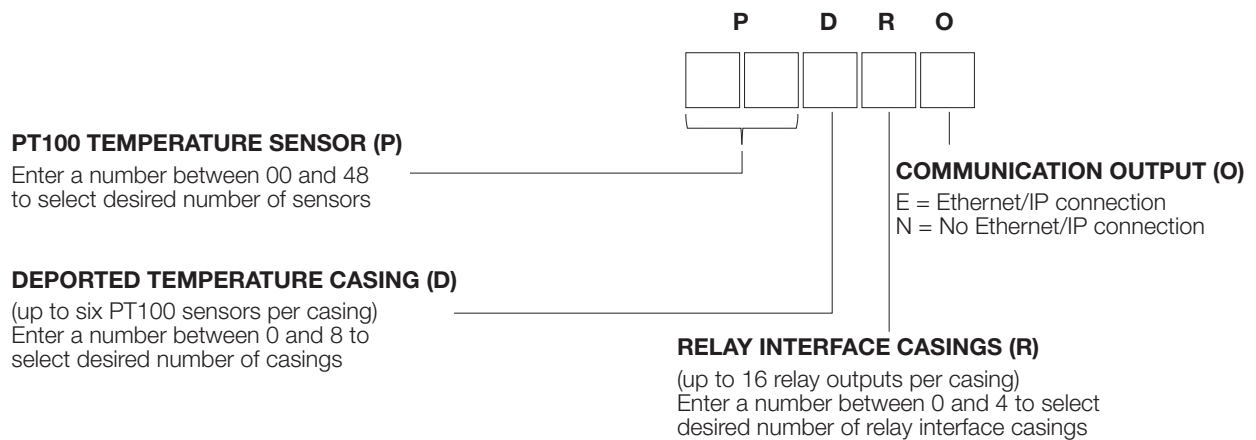
#### Model 178 Load Cell

Note: Please refer to model's datasheet for further information. Refer to Document no: 63999.

All specifications are subject to change without notice.

If you require any further information about any of the modules, please contact [vpgt.marketing@vpgsensors.com](mailto:vpgt.marketing@vpgsensors.com).

## ST3 Silo Weighing System

**ORDERING INFORMATION FOR ST3****Complete item number****Mandatory section of item number****Optional section of item number****Example Complete Item Selection Number:**

ST3- 1209 – 1831E with 90/230 VAC to 24 VDC 100 W power supply, 2 deported casings, 9 silo kits, 18 temperature sensors, 3 deported temperature casings, 1 relay interface casing, and an Ethernet/IP connection.

## ST3 Silo Weighing System

### COMPONENTS FOR INDIVIDUAL PURCHASE

**RTSP**
**XXXX**

RTSPST3 = MAIN CONTROL UNIT

RTSPSPW = POWER SUPPLY UNIT

RTSPSDCS = DEPORTED CASING FOR 6 SILO KITS

RTSPSSK = SILO KIT

RTSPSLCC = LOAD CELL AND SILO KITS CABLE

RTSPSTCC = TEMP SENSOR CABLE

RTSPSPT = PT100 TEMP SENSOR

RTSPSDCPT = DEPORTED TEMP CASING FOR 6 PT100s

RTSPSOPREL = OUTPUT – RELAY INTERFACE CASING

RTSPSCOMETH = COMMUNICATION – ETHERNET/IP

RTSPSNUC = COMMUNICATION CABLE (CAN BUS)

RTSPSWLC = LOAD CELL WEATHER SHIELD

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