# CARBON MONOXIDE TRANSMITTER
## 2-WIRE, CONFIGURABLE RANGE



## ABOUT SCC653

SCC653 continuously monitors the % of carbon monoxide in air using an onboard electrochemical sensor.

SCC653 provides a 2-wire, loop powered 4 to 20 mA output signal proportional to the carbon monoxide concentration in air. An optional LCD display is available for local indication.

SCC653 can be configured for CO ranges via DIP switches provided or it can be calibrated for output & configured for CO ranges using DCC501 interface & PC based utility software.

## APPLICATIONS

- Pharma clean rooms
- Car parking lots
- Greenhouse
- Food industry
- Shopping malls
- Cold storage

## FEATURES

- User configurable CO ranges upto 1000 ppm
- Optional 4 digit dual row LCD display to display carbon monoxide value in ppm
- Field replaceable CO sensor
- True 2-wire operation
- IP65 protection for enclosure
- Wall mount arrangement
- Internal switch provided to adjust zero ppm
- DIP for range selection

# SCC653

## SPECIFICATIONS

**All specifications at ambient of 25 °C, unless specified otherwise**

**INPUT**

| | |
|---|---|
| Sensor | Electrochemical |
| Measurement range | 0~1000 ppm, configurable |
| Accuracy | ± 5 ppm or ± 5% of reading |
| Accuracy rated temperature | 0~50 °C (-32 °F to 122 °F), 15 to 95% |
| Life expectancy | 2 years |
| Sample method | Diffusion |
| Pressure range | 0.9~1.1 |
| Long term stability | < ± 5% signal / year |
| Response time | < 30 sec for 90% step change |
| Coverage area | 7500 sqft or 50 feet radius |
| Max air pressure | <5 Kg/cm$_2$ |

**ANALOG OUTPUTS**

| | |
|---|---|
| Output type | 4~20mA, 2-wire |
| Permissible load | (Vpower supply - 7.5V) / 0.0208A |
| Current limit | 3.8 mA or 20~22 mA, in case 10 sensor unplugged |

**CROSS SENSITIVITY**  See Table 1

**POWER SUPPLY**

| | |
|---|---|
| Supply voltage | 7.5~45 V DC, reverse polarity protected |
| Supply voltage effect on output | Negligible, 0.001% of span/V |

**CALIBRATION & CONFIGURATION**  Via keys with display option or PC based configurator software using DCC501 interface

**TEMPERATURE, HUMIDITY**

| | |
|---|---|
| Ambient, operation | -20°C ~ +50 °C |
| Relative humidity | 15 ~ 90% RH, non-condensing |

**MECHANICAL**

| | |
|---|---|
| Enclosure | ABS plastic |
| Dimensions (in mm) | See Fig 1 |
| Protection | IP65 except sensor |
| Mounting | Surface |
| Installation | For better result should be installed at least 5 feet from the floor, preferably on upper part of walls |

## TABLE 1

The following table gives cross sensitivity information for a variety of commonly encountered gases with CO.
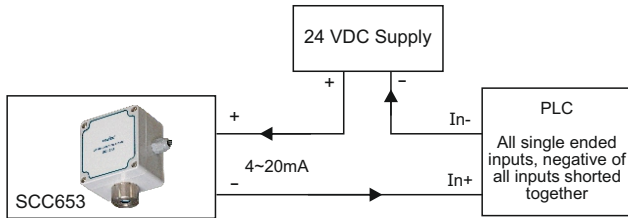
| Test gas | Tested concentration (ppm) | CO equivalent reading (ppm) | % Cross-sensitivity |
|---|---|---|---|
| Carbon monoxide | 100 | 100 | 100 |
| Hydrogen sulphide | 10 | 0 | 0 |
| Hydrogen | 1000 | <400 | <40 |
| Methane | 5000 | 0 | 0 |
| Carbon dioxide | 5000 | 0 | 0 |
| Sulpher dioxide | 30 | 0 | 0 |
| Nitric oxide | 50 | <35 | <70 |
| Nitrogen dioxide | 30 | <2 | <7 |
| Ammonia | 1000 | 0 | 0 |
| Ethyl acetate | 200 | 0 | 0 |
| Ethanol | 2000 | <20 | <1 |
| Ethylene | 100 | <80 | <80 |
| Chlorine | 1 | 0 | 0 |
| Formic Acid | 100 | 0 | 0 |

# CARBON MONOXIDE TRANSMITTER
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## CONNECTION DIAGRAM

### SCC653 connected to PLC

24 VDC Supply

+        −

+

In-

4~20mA

−

In+

SCC653

PLC

All single ended inputs, negative of all inputs shorted together

### SCC653 connected to controller

Temperature Controller

$V_{TX}$

(24VDC supply) V+

4~20mA

$I_{IN}$

I

SCC653

## DIMENSIONS  mm

Fig 1

82

80

30    18

Front View

82

55

30

Bottom View

55

Left Side View

55

Right Side View

80 74 68 50

58

43.5
58.6
70
76

ø4.2

ø3×6

Section View
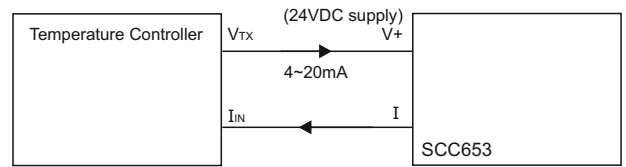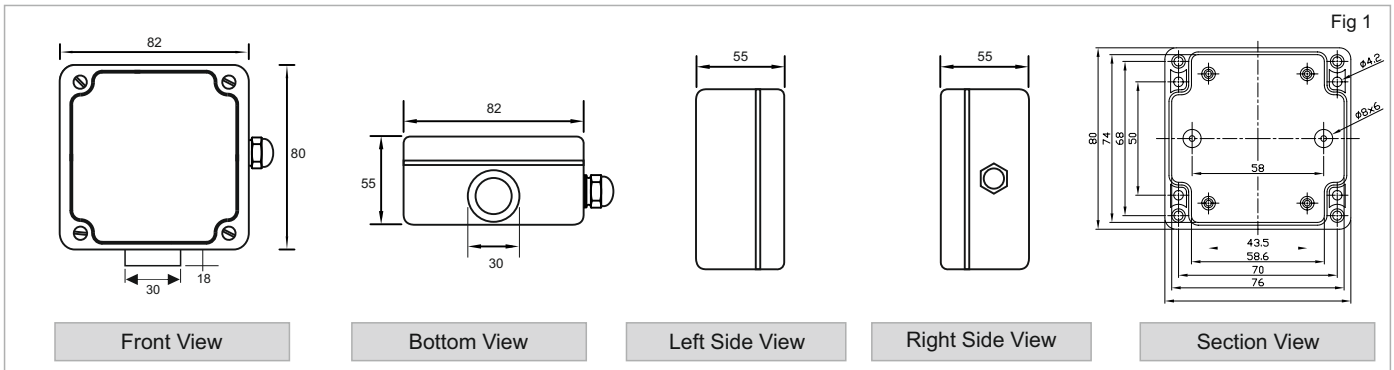
## ORDERING INFORMATION

| Example | 2778 | 0 | R | |
|---|---|---|---|---|
| Order Code | 2778 | | | |
| LCD Display | | 0 | | Absent |
| | | 1 | | Present |
| Range Selection | | | R | User to specify. Default range 0~1000 ppm |

**Default order code**
LCD display : Absent,
PPM range : 0~1000

2778  0   R 0~1000

PPM range

LCD display : Absent
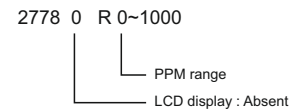
User can also select range through PC using DCC501 converter

| ITEM | MODEL | ORDER CODE |
|---|---|---|
| USB TO SERIAL CONVERTER - ISOLATED* | DCC501 | 2555 0 |

\* To be purchased separately.

CAT#652R1/A