SCE-03 RS-232C Serial Interface and Comparator Relay Output Instruction Manual

1WMPD4002182

1. Features

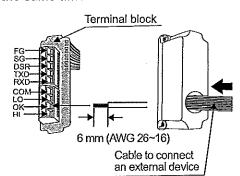
- This interface allows the scale to be connected to a printer or a personal computer.
- It also allows outputting the comparison results of HI, OK or LO obtained using the comparator function as a relay signal.

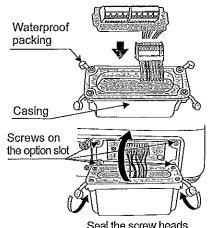
Note: SCE-02 and SCE-03 can not be installed at the same time.

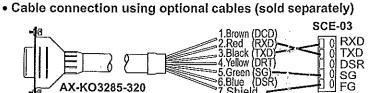
2. Installation Procedure

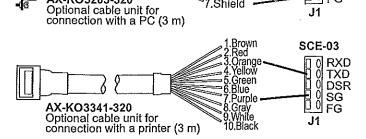
Note: Before installing the SCE-03 board, be sure to remove the batteries from the scale.

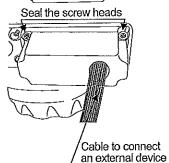
- Step 1 Pass the cable to connect an external device through the hole on the casing and connect it to the terminal block on the interface board.
- Step 2 Insert the interface board into the casing.
- Step 3 Place the waterproof packing on the casing, aligning its holes with the casing screw holes.
- Step 4 Remove the four screws on the option slot panel located on the bottom of the display.
- Step 5 Insert the interface board into the option
- Step 6 Secure the casing to the display, using the four screws provided with the casing.
- Seal the screw heads with the tabs attached to the waterproof packing.











J1

3. SCE-03 RS-232C Serial Interface

- The RS-232C serial interface has four output modes; Stream mode, Command mode, Print switch mode and Auto-print mode.
 - For details, refer to "3.3. Data output mode".
- Set the parameters of the functions "bP5", "Prt" and "ALt" as necessary.

3.1. Interface specifications

Data format

Baud rate:

2400, 4800, 9600 bps

Data bits:

7 bits + parity 1 bit (even)

Start bit:

1 bit

Stop bit:

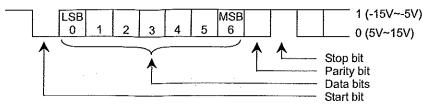
1 bit

Code:

ACII

Terminator:

 C_RL_F (C_R : 0Dh, L_F : 0Ah)



· Relay output maximum rating

Maximum voltage:

50V DC

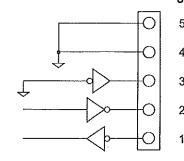
8Ω

Maximum current:

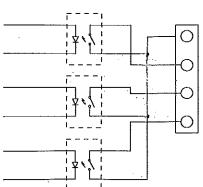
100mA DC

Maximum ON resistance:

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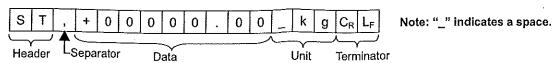


- 5 Frame ground
- FG
- 4 Signal ground
- SG DSR
- Data set ready
 Transmit data
- TXD
- Receive data
- RXD



- J2
 - Relay output common COM
 - Relay output
- LO
- Relay output
- OK
- 1 Relay output
- HI

3.2. Data format



Four types of headers are available:

ST : Stable weight data

US: Unstable weight data (including counting data)

QT: Stable counting data

OL: Out of weighing range

- The data is always 9 digits including a sign and a decimal point.
- · Four units are available:

_ k g : Weight data in "kilograms" (kg)

_ l b : Weight data in "decimal pounds" (lb)

_PC : Counting data in "pieces" (pcs)

_ o z : Weight data in "decimal ounces" (oz)

- The terminator is always C_RL_F.
- Example of output data:

Weight data "kg"	S	Т	,	+	0	0	1	2	3		4	5	_	k	g	C_R	L _F
Counting data "pcs"	Q	Т	,	+	0	0	0	1	2	3	.4	5		Р	С	C_{R}	L _F
Out of weighing range "kg" (+)	0	L	1	+	9	9	9	9	9		9	9		k	g	C_R	L _F
Out of weighing range "pcs" (-)	0	L	1	-	9	9	9	9	9	9	9	9	-	Р	С	C_R	L _F

3.3. Data output mode

Stream mode / Command mode

Function setting "Prt 0"

The scale outputs the current display data in sync with the display update of approximately 10 times per second. The scale does not output data while it is in the setting mode.

Command mode only

Function setting "Prt 1"

The scale replies only to a command. For details, refer to "3.4. Command mode".

• Print switch mode / Command mode.

Function setting "Prt 2"

When the PRINT switch is pressed while the weight value is stable (STABLE indicator is on), the scale transmits the value.

Auto-print mode +/- data / Command mode

Function setting "Prt 3"

The scale transmits the weight value when the display is stable (STABLE indicator is on) and the value is more than +4d or less than -4d.

The next output can be obtained after the value returns to be more than -4d and less than +4d.

d = minimum display (Refer to "13-1 Specifications" of the scale instruction manual.)

Even the counting mode uses "d" for judgment.

• Auto-print mode + data / Command mode

Function setting "Prt 4"

The scale transmits the weight value when the display is stable (STABLE indicator is on) and the value is more than +4d.

The next output can be obtained after the value returns to be less than +4d.

d = minimum display (Refer to "13-1 Specifications" of the scale instruction manual.) Even the counting mode uses "d" for judgment.

3.4. Command mode

In the command mode, the scale is controlled by commands that come from the external device such as a personal computer.

Command list

• "Q" command

Command to request the current weight value.

Command

Q C_R L_F

Reply

S T, , + 0 0 1 2 3 . 4 5 _ k g C_R L_F

• "Z" command

Same operation as the ZERO switch.

Command

Z C_R L_F

• "T" command

Same operation as the TARE switch.

Command

T C_R L_F

Reply to the command

 When the command cannot be executed, for example, because the scale is unstable, "I" will be sent.

Reply

I C_R L_F

• If the received command is not for the SC/SE series scale, the scale will send "?".

Reply

? C_R L_F

• When "ALL D" is selected, there is no reply except the "Q" command.

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