Solumetrix Transmitters 4-20xD2C

2 Transmitters compatible with the BK series Solumetrix sensors:

The 4-20WD2C has a 6 digit display and control buttons to allow monitoring of the conductivity and temperature, and changing of probe parameters.
The 4-20ND2C has no display or buttons and the probe configuration needs to be specified at time of ordering.

Features:-
6 digit display. (4-20WD2C only).
Dual isolated 4-20mA outputs, of temperature, and conductivity.
Dual DC voltage outputs, 0-5V, of temperature, and conductivity.

Connections

SK1 Connection to conductivity sensor.
SK2 Power supply input, +12V to +24V DC, 250mA.
SK3 Temperature and compensated conductivity analog outputs, non-isolated (optional).
SK4 Temperature and compensated conductivity 4-20mA loop outputs, opto isolated from power supply input and each other. Loop powered.
SK5 Power output, = power supply input minus 0.7V. Can be commoned to one or both 4-20mA outputs to supply power for loop powered instruments.

Connection diagram of the conductivity sensor and power supply is shown in figure 1. Pay attention to wire colors of the sensor – color of each wire must match the color name written on the 4-20xD2C board next to the connector SK1.

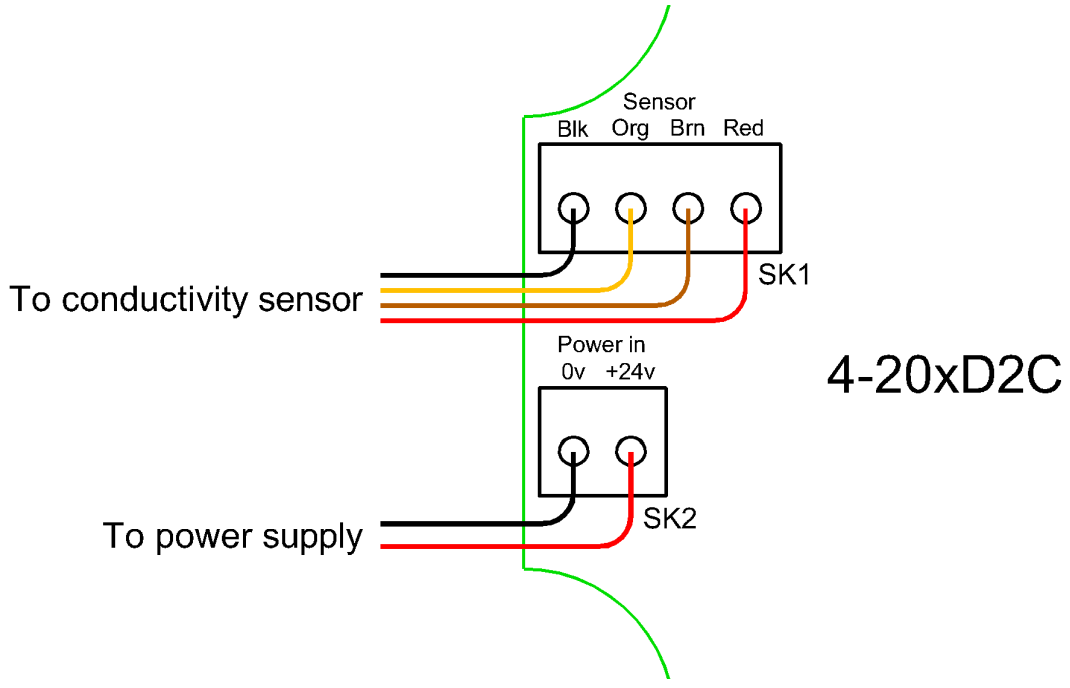

Figure 1. Connecting the conductivity sensor and power supply

Connection diagrams of 4-20mA outputs are shown in figures 2 and 3.
If the 4-20mA receiver (PLC or other instrument) can't supply loop power or it is preferred to use 4-20xD2C supply for other reasons, the receiver must be connected to the 4-20xD2C board as shown in figure 2.
If the receiver is able to supply loop power and it is preferred to use receiver's supply, it must be connected as shown in figure 3.
Wires that are shown as dashed lines can be omitted if 4-20mA output of temperature is not required.

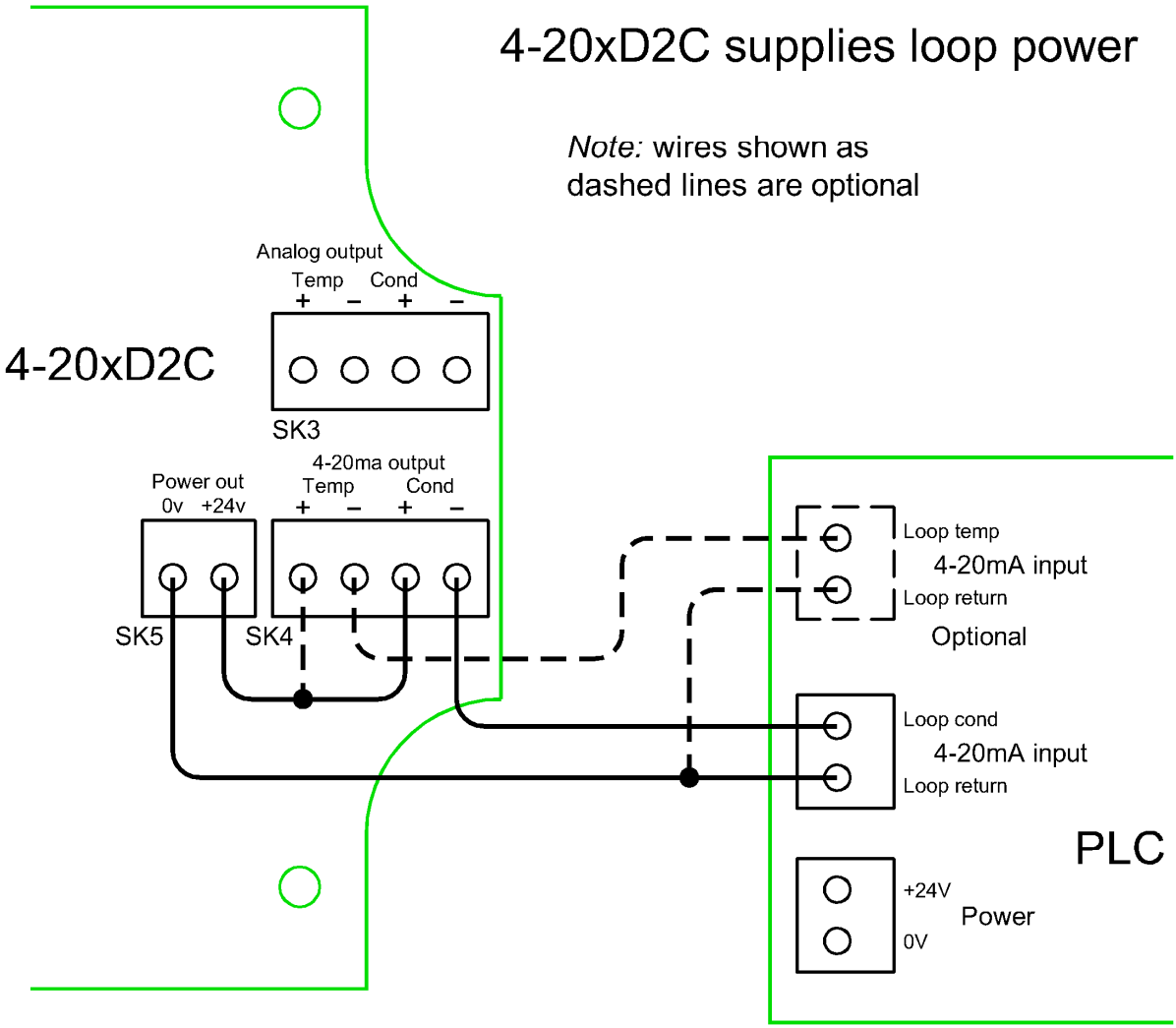

Figure 2. Connecting the PLC to the 4-20mA output if the 4-20xD2C supplies loop power

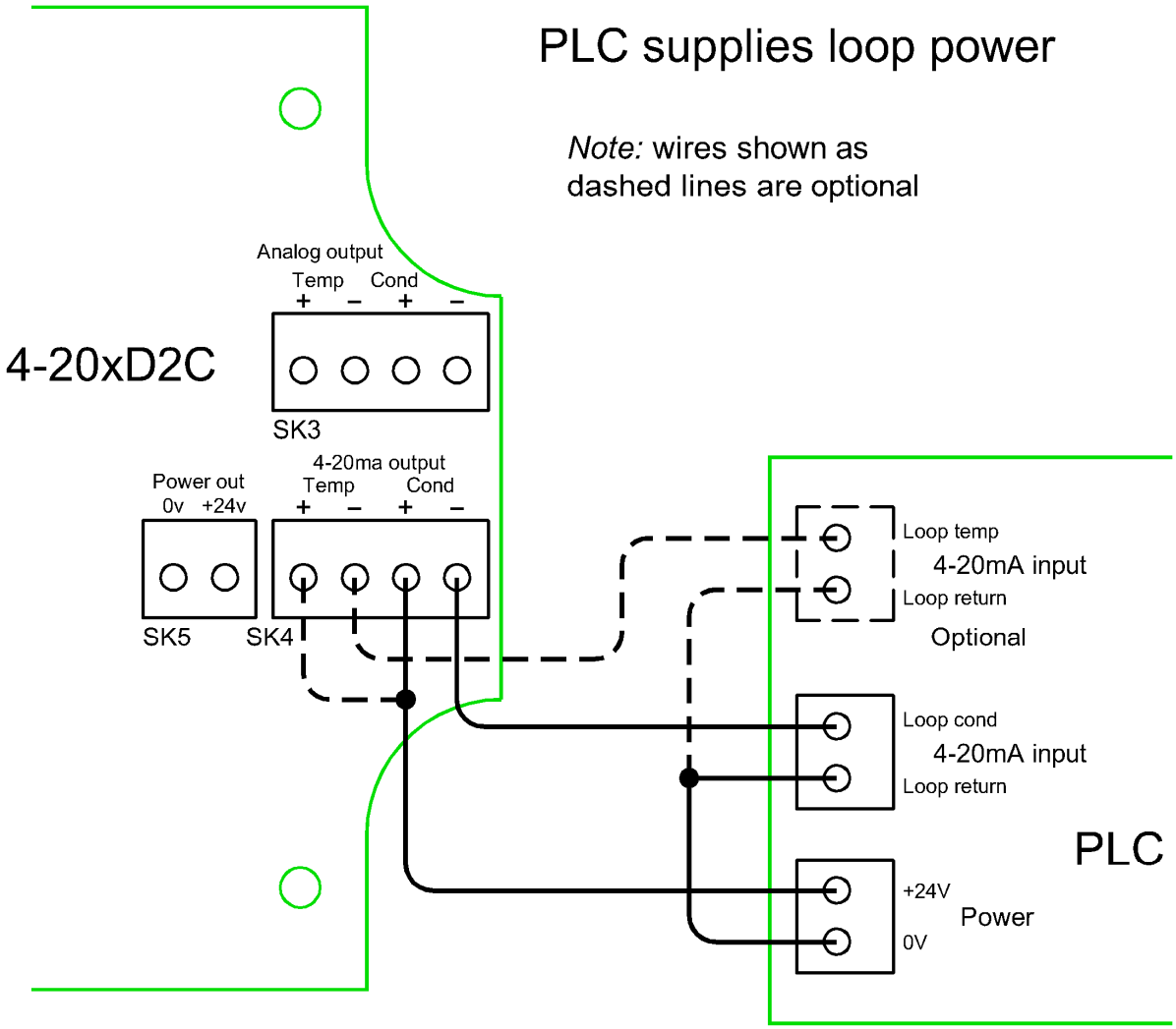

Figure 3. Connecting the PLC to the 4-20mA output if the receiver supplies loop power

Menus (4-20WD2C only).

Pressing the Up or Down buttons will cycle the display through the various parameters and values.
Pressing the Select button will change the display to the settable parameter (if any) for that option.
While in settings mode the Up and Down buttons change the value for that parameter.
Pressing Select again will go back to the normal menu mode.

Normal display		Setting button
C xxxxx	Compensated conductivity in mS	None.
U xxxxx	Uncompensated conductivity is mS	None.
T xxx.xx	Temperature in °C or °F	Set **Cent**igrade or **Fahr**enheit.
TE-C0	Temperature compensation	Set Temp comp% **TC x.xx**
rAn	Set conductivity range	Set **200** or **20** mS range.
tE-4	Set temperature for 4-20mA 4mA out	Set temperature for 4mA
tE-20	Set temperature for 4-20mA 20mA out	Set temperature for 20mA
CO-4	Set conductivity for 4-20mA 4mA out	Set conductivity for 4mA
CO-20	Set conductivity for 4-20mA 20mA out	Set conductivity for 20mA
tE-A0	Set temperature for analog out 0V	Set temperature for 0V
tE-A5	Set temperature for analog out 5V	Set temperature for 5V
CO-A0	Set conductivity for analog out 0V	Set conductivity for 0V
CO-A5	Set conductivity for analog out 5V	Set conductivity for 5V

Notes:

If the 4mA level is set higher than the 20mA on a 4-20mA output or if there is a sensor communications error then the output will be set to 20mA to indicate an error.

If the 0V level is set higher than the 5V level on analog output or if there is a sensor communications error then the output will be set to 5 volts to indicate an error.