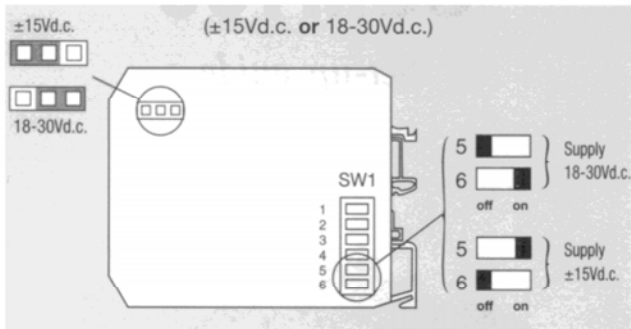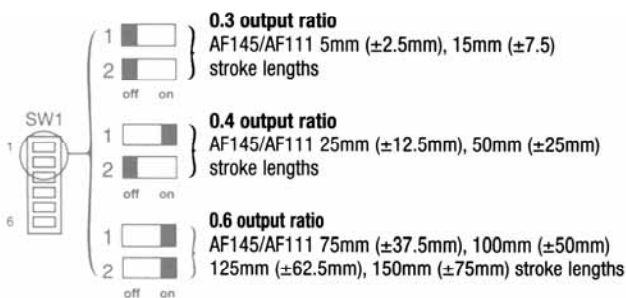**Note: It is essential that steps 1 to 4 must be carried out before connecting power supply or LVDT to SCM100 board.**

Step 1 Set supply voltage option using link LK 1 and switches 5 and 6 on SW1 shown. The unit is supplied pre-set for 18-30Vd.c. operation. For ±15Vd.c. operation, remove blanking plug (if fitted) from terminal 2 before proceeding.
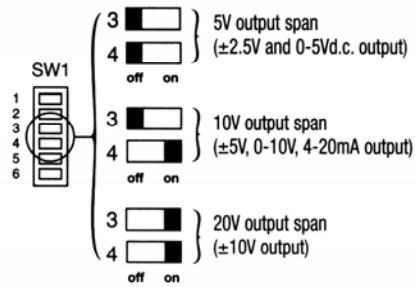

Step 2 Fit appropriate power supply label onto box.

Step 3 Select LVDT output ratio R using switches 1 and 2 on SW1 as shown.

0.3 output ratio
AF145/AF111 5mm (±2.5mm), 15mm (±7.5) stroke lengths

0.4 output ratio
AF145/AF111 25mm (±12.5mm), 50mm (±25mm) stroke lengths

0.6 output ratio
AF145/AF111 75mm (±37.5mm), 100mm (±50mm) 125mm (±62.5mm), 150mm (±75mm) stroke lengths

Step 4 Set output span using switches 3 and 4 on SW1 as shown

**Note: 4-20mA is available on SCM100/I only
± voltages only available with ±15V power supply**

5V output span
(±2.5V and 0-5Vd.c. output)

10V output span
(±5V, 0-10V, 4-20mA output)

20V output span
(±10V output)

Step 5 Establish LVDT null point
Connect multimeter or output monitoring device to pins 7+8 (voltage) or pins 8+9 (current)
Connect power supply to the SCM100
(+15V to pin 1, 0V to pin 2 and -15V to pin 3 or 24V to pin 1 and 0V to pin 3)
Do not connect 24V across pins 1 and 2.

If not already connected, link pin 4 to pin 10, and pin 5 to pin 12.

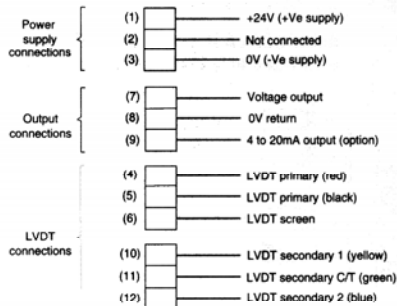Adjust the null trim pot to give the chosen mid stroke output null value i.e.

0.000V for ±10V, ±5V or ±2.5V output range
5.000V for 0-10V output range
2.500V for 0-5V output range
12.00mA for 4-20mA output range

Remove the links then connect the LVDT to the SCM100 - see page 4.

Reposition the LVDT shaft as necessary to achieve the mid-stroke output (0V, 5V, 2.5V or 12mA as above).

This shaft position corresponds to the LVDT mid stroke.

CONNECTION DETAILS
(24Vd.c. single rail supply)

Power supply connections		
(1)	+24V (+Ve supply)
(2)	Not connected
(3)	0V (-Ve supply)

Output connections		
(7)	Voltage output
(8)	0V return
(9)	4 to 20mA output (option)

LVDT connections		
(4)	LVDT primary (red)
(5)	LVDT primary (black)
(6)	LVDT screen
(10)	LVDT secondary 1 (yellow)
(11)	LVDT secondary C/T (green)
(12)	LVDT secondary 2 (blue)

Step 6 Gain calibration
Move LVDT shaft to the electrical extend position and adjust the gain trim pot to give the desired full scale output e.g.
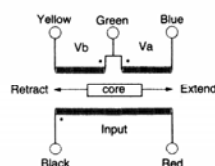
+10V for ±10V or 0-10V configuration
+5V for ±5V or 0-5V configuration
+2.5V for ±2.5V configuration
+20mA for 4-20mA configuration

Move LVDT shaft to electrical retract position and verify zero.

Note: this will be approx 50mV with 24V supply.

Step 7 Slope reversal
Swap over yellow and blue LVDT connections to reverse output slope.

AF111/145 LVDT SCHEMATIC

For technical assistance contact your local distributor or Penny+Giles Controls Ltd, UK Tel: +44 (0)1202 409409

Penny+Giles

YOUR PARTNERS
In Control

SCM100
Set-up guide

Doc. Ref. SCM100 12/99