Instructions

These instructions are for programming the electronic pressure switch EPS.

Safety Information

Before commissioning, check the instrument and any accessories supplied. Before commissioning, please read the operating instructions. Ensure that the instrument is suitable for your application.

If the instrument is not handled correctly, or if the operating instructions and specifications are not adhered to, damage to property or personal injury can result.

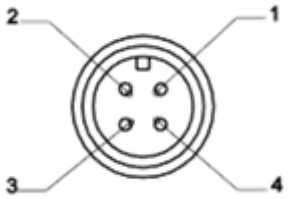
Installation

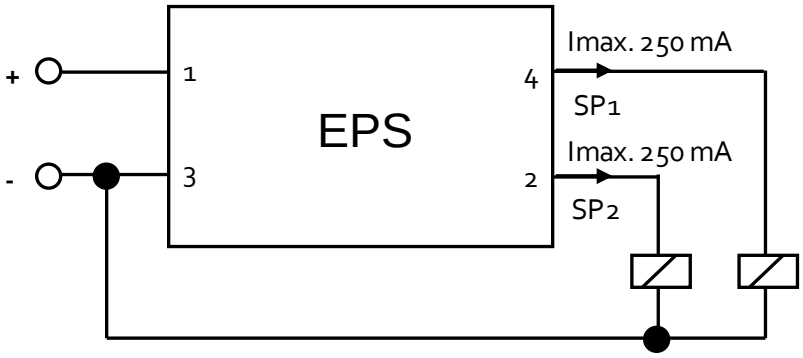
The EPS can be mounted directly via the pressure connection or indirectly on a hydraulic block using a hose or a minimess line.

The EPS must be fitted using a suitable open-end wrench (across flats 27) on the hexagon nut of the pressure connection.

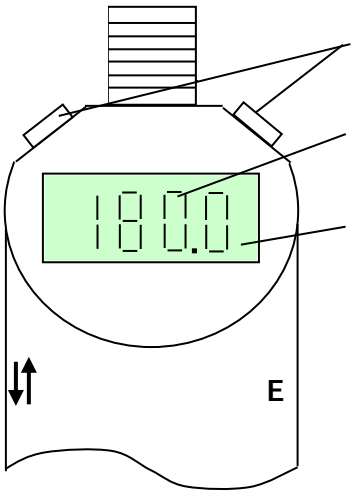
Do not install the EPS by gripping the housing, as this would damage the housing or the entire instrument.

Pin assignment





Controls of the EPS



2 keys (↓↑ and E) for adjusting the switch points, switch-back points and additional functions

4-digit digital display

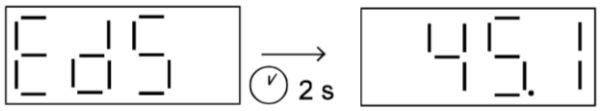
LED backlight
to indicate switch points
(red = actice / green = inactive)

Function of keys

- *To scroll through the menu*
- *To increase the value*
- *Hold the key down to fast-scroll through the parameter values*

- *To select the menue point*
- *To confirm value*

Digital display



Once the power supply has been switched on, the device briefly flashes "EdS", and then begins to show the actual pressure.

To check the unit of measurement being used for the pressure indication, press the right-hand key. Depending on the setting, bar, PSI or MPA will be shown

If the actual pressure exceeds the instrument's nominal pressure it can no longer be displayed. The nominal pressure flashes in the display. As a result, when the menu point Max Value (Hi) is selected, the value of the highest measured pressure which has been stored flashes until the instrument is reset by "reset Min-/Max-value"
(re.HL) or "reset" (rES).

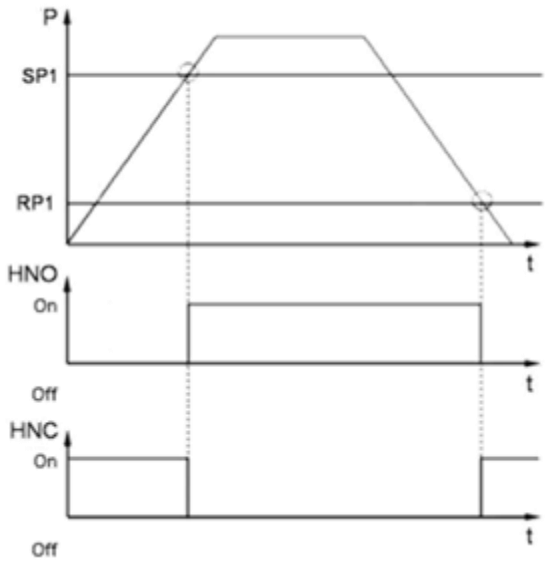
If the actual pressure is less than 0.6 % of the nominal range, 0 bar is displayed.

Hysteresis function

The EPS has 2 switch outputs. The following settings can be made under the basic settings:

Switch point setting (SP)
One switch point and one switch-back point can be set for each switching output.
The particular output will switch when the set switch point is reached and switch back when the pressure drops below the switch-back point.

Example for switch point 1 (normally closed and normally open function):



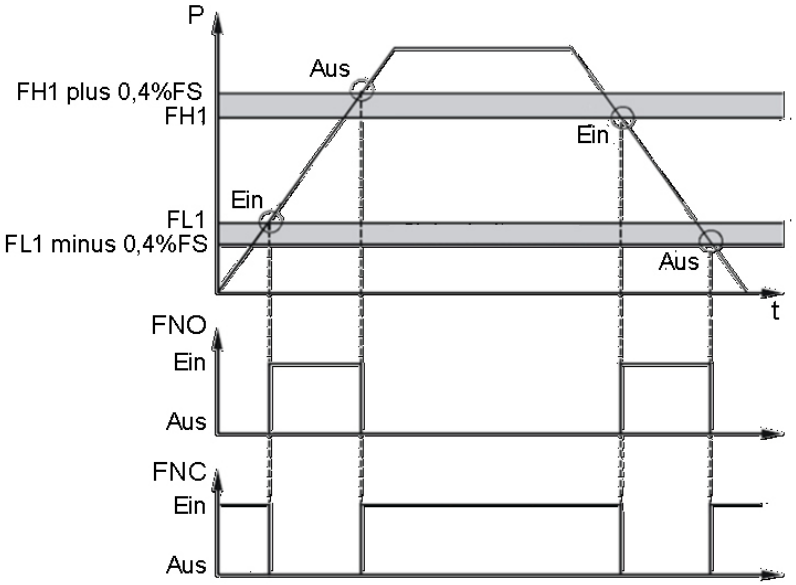
Abbreviations:
"SP1", "SP2" = *Switch point 1, swicht point 2*
"RP1", "RP2" = *Switch back point 1, switch back point 2*
"HNO", = *Normally open with hysteresis function*
"HNC" = *Normally closed with hysteresis funktion*

Note:
It is only possible to set the switch point (SP) if it is higher than the respective switch-back point (RP). In the case of low SPs we recommend setting the RP first.

Window function

The window function allows you to monitor a range. An upper and a lower switch value can be entered for each switch output. These values determine the range.
The relevant output will then switch when the pressure enters this range.
When the pressure leaves this range, i.e. when the switch-back point has been reached, the output switches back. The lower switch-back value is just below the lower switch value. The upper switch-back value is just above the upper switch value. The range between the switch value and the switch-back value forms a safety margin which prevents unwanted switching operations from being triggered (such as those triggered by the pulsations of a pump).

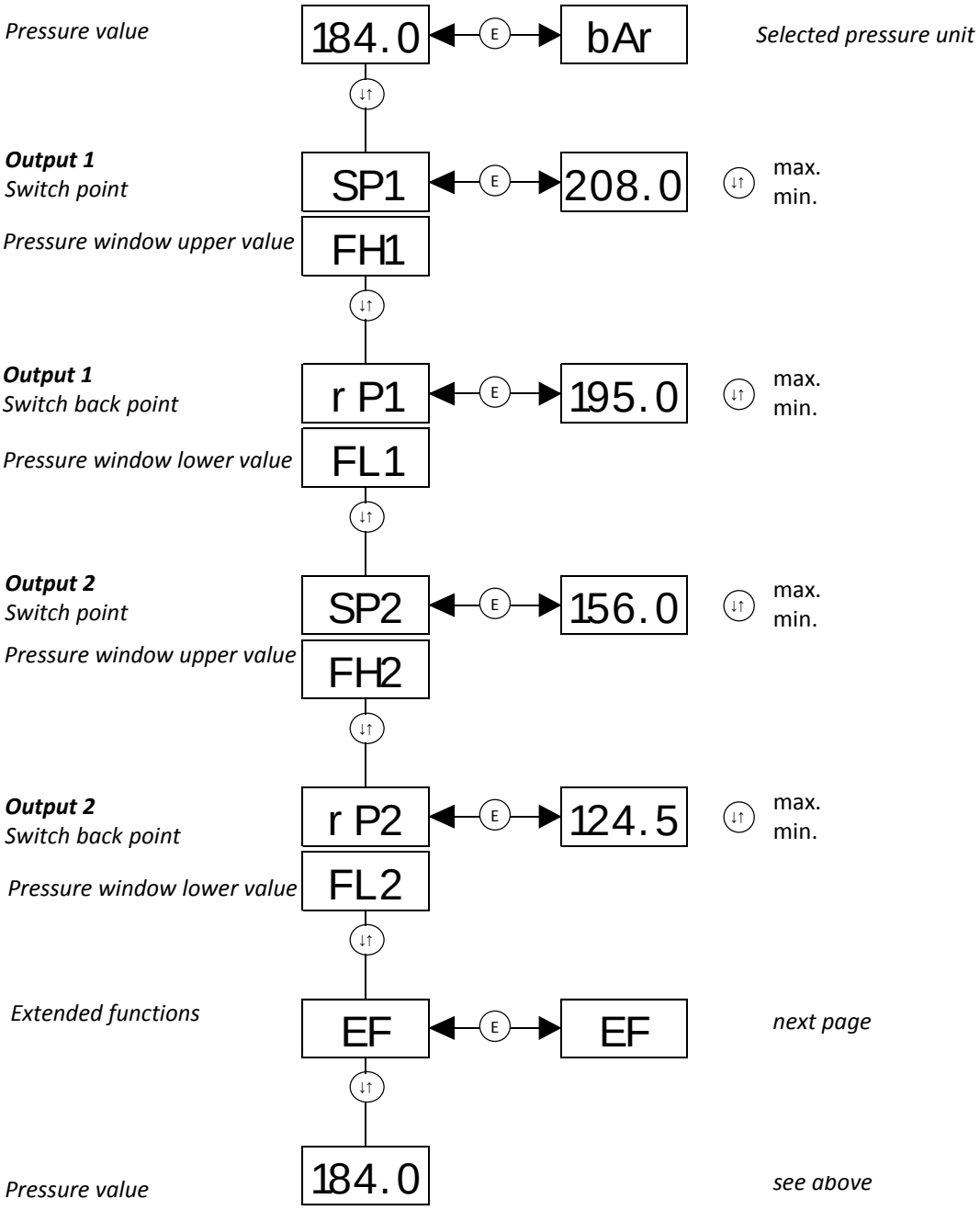
Example for switch point 1 (normally closed and normally open function):



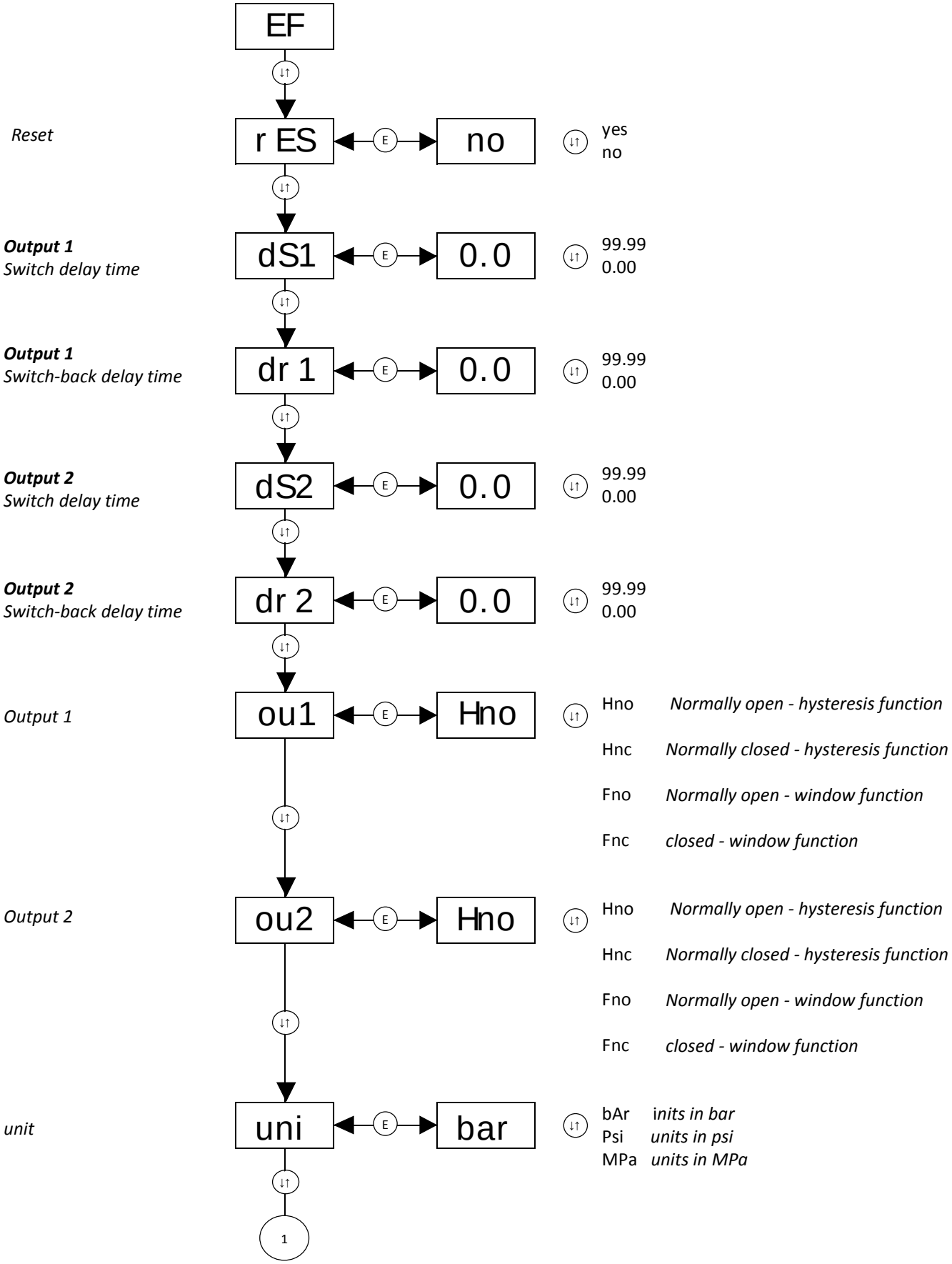
Abbreviations:
"FH1", "FH2" = *Upper switch value 1 / upper switch value 2*
"FL1", "FL2" = *Lower switch value 1 / lower switch value 2*
"FNO" = *Normally open when window function is active*
"FNC" = *Normally closed when window function is active*

Note:
It is only possible to set the switch point (SP) if it is higher than the respective switch-back point (RP). In the case of low SPs we recommend setting the RP first.
The window function only works properly (switching on and off) if all switch values (including the safety margin) are above 0 bar and below the nominal pressure range.

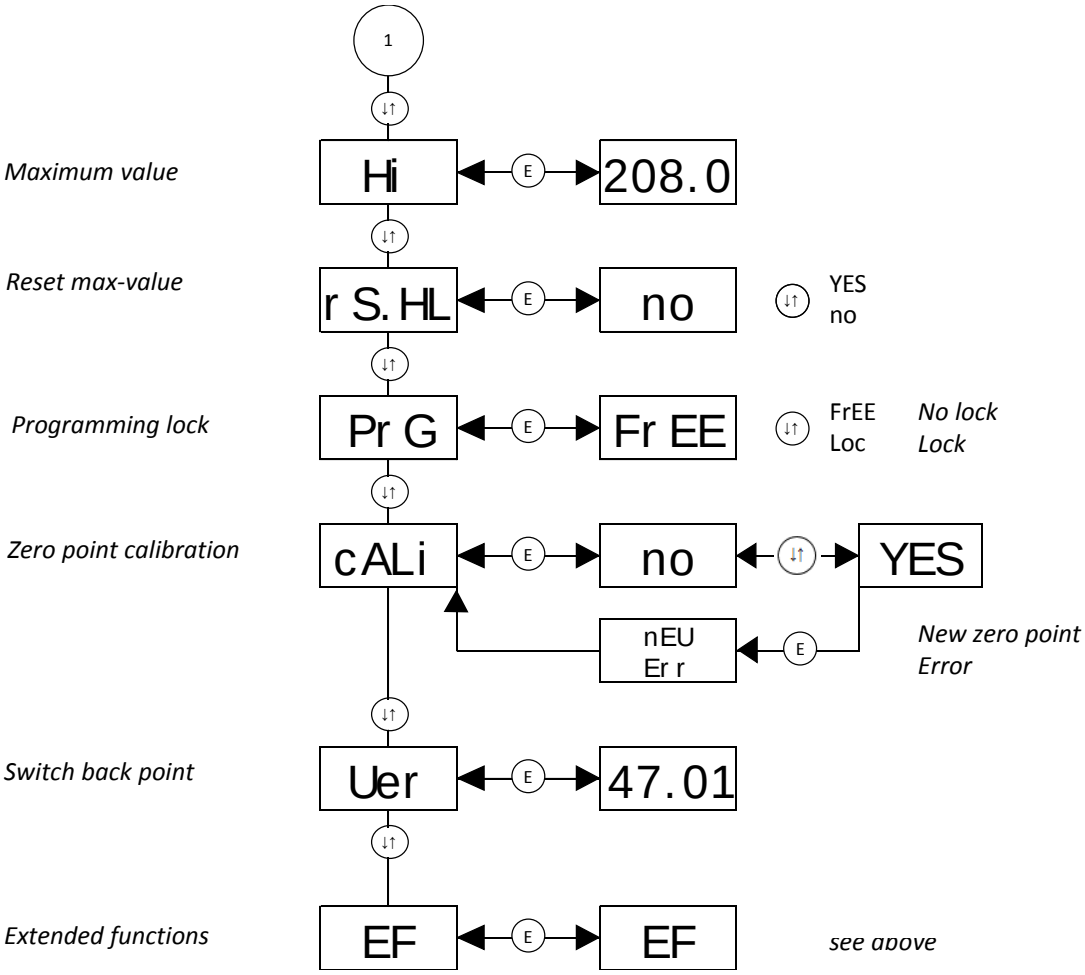
If no key is pressed for approx. 60 seconds, the menu closes automatically, and any changes that may have been made will not be saved.
If both keys are pressed at the same time, the menu closes automatically and any changes made are saved.
When an adjusted parameter is confirmed, the set value is displayed for a second before returning to the relevant menu point.



Extended functions



Extended functions



Calibration of zero point

The function "Cali" enables the calibration of the sensor zero point. The current pressure is saved as the new zero point. This is possible in the range +/- 3% of the instrument rated pressure.
"neW" appears in the display when a calibration is carried out in the permitted range, otherwise "Err" is displayed.
This function is useful, for example, if there is always a residual pressure left in the system which should be displayed as 0 bar.

CAUTION:
Following a zero point adjustment, for example on a 600 bar instrument, a pressure of up to 18 bar will be displayed as 0 bar. Before any work is carried out on the hydraulic system, ensure that the system is depressurised.

Programming lock

In order to prevent unauthorised adjustment of the device, a programming lock can be set. If the menu item "PrG" is set to "Loc" in the extended menu, the programming lock is set. All values can still be read but can't be edited. When trying to edit a value by means of the arrow keys, "Loc" is displayed as long as the key is pressed. The functions "reS" and Rs.HL" are locked as well.

Error messages

If an error is detected, a corresponding error message appears that must be acknowledged by pressing any key.

Possible error messages:

E.10 *A data error was detected in the saved settings. This could be due to strong electromagnetic interference or a component fault.*

Action:
Press (E) and confirm "RES" by pressing "Yes". The factory settings will be restored for all adjustable parameters and all minimum and maximum values will be deleted. Enter the data again from the beginning.

E.12 *An error was detected in the saved calibration data. This could be due to strong electromagnetic interference or a component fault.*
Action:
Disconnect then reconnect the supply voltage to the instrument. If the error persists, the instrument must be returned to the factory for recalibration or repair.

E.21 *A communication error was detected within the instrument. This could be due to strong electromagnetic interference or a component fault.*
Action:
Press (E). If the error persists, disconnect then reconnect the supply voltage to the instrument. If the error still persists, please contact our service department.