

Impact Series



Operating Instructions and Maintenance Manual

Manual excerpt regarding Honeywell Enforcer use
with Appendix of fault codes.

Honeywell

4.9.4 Enforcer Calibration



This is designed for oxygen, flammable (catalytic or IR LEL sensor), carbon monoxide and hydrogen sulfide, using a special-to-type gas cylinder. It offers quick, simple and safe operation by any user, due to the use of a patented low pressure, low flow rate system.

Note that the Enforcer cylinder contains dangerous gases.

Performing a Calibration Check with Enforcer

To perform a calibration check of your Impact unit using the Enforcer, power the unit on and place it into the Enforcer and follow the on-screen instructions (see **Section 4.9.4.1 Enforcer On-Screen Instructions**). Then review the peak readings as shown in **Section 4.1.1 Peak Screen**.

Performing a Bump Test with Enforcer

To perform a bump test of your Impact unit using the Enforcer, power the unit on then place it into the Enforcer and follow the on-screen instructions (See **Section 4.9.4.1 Enforcer On-Screen Instructions**). A bump test is a check of basic functionality (not a calibration check), so the Impact unit need not remain in the Enforcer for the full ninety seconds; 30 seconds is usually sufficient. Remove the Impact and check that all the fitted sensor channels are showing alarms, and that the visual (red flashing lights) and audible alarms are active.

If there is any doubt about the bump test result, carry out a calibration check as described above, or a full calibration as described below.

Performing full Calibration with Enforcer

Power up the instrument and perform a 'hard zero' (using the zero on the calibration menu - see **Section 4.9.2.1 Zero**) then follow the steps in **Section 4.9.4.1**. If the Enforcer calibration is successful, the unit will automatically update the next calibration required by date by the predefined calibration interval value (default 180 days).

Note:

If the 'Hard Zero' is omitted then the calibration is retained only for the current session and the calibration date will not be updated.

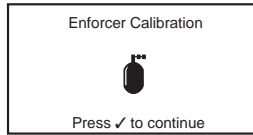
4.9.4.1 Enforcer On-Screen Instructions

1. If it is not already fitted, screw the Honeywell Analytics cylinder in tightly (multi-gas mix for Enforcer), check that the pressure gauge shows gas pressure is present, and pull back the instrument drawer.



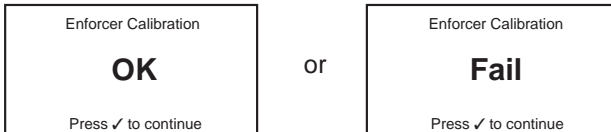
3. Insert the instrument, by tilting at a slight angle, so that the instrument front cover locks under the cover lip in the Enforcer as indicated.
4. Then return the instrument to the vertical. The rear locking mechanism of the Enforcer will retain the instrument. Now close the drawer firmly.

- The instrument will recognize the Enforcer and display an instruction to press the ✓ button to continue.

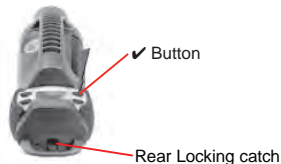


When ✓ is pressed, the user should hear the distinctive 'click' of the Enforcer gas delivery solenoid valve.

- After about 90 seconds the instrument will display either a pass or fail.



- If the instrument reports a failure then check that the gas cylinder has sufficient pressure. Then repeat once more. Note that the instrument drawer must be opened and then closed to reactivate the Enforcer. If a subsequent failure should occur please have the instrument serviced and calibrated, as it may be due to blocked or dirty filters, or the sensor(s) has failed.
- When completed and successful remove the instrument by pressing downwards on the rear locking catch and lifting the instrument out. The instrument will activate all its gas alarms as it detects the gas from the cylinder, thereby also performing a bump test.



The cylinder should be removed after use.

The instrument automatically switches to a flammable gas setting of methane while in use with the Enforcer. On completion it will revert to the flammable gas that the instrument is set to measure. No intervention by the user is required.

5. Fault Finding and Procedures

There are two levels of fault within the instrument.

The first level is a warning, from which the user may be able to recover, e.g. a low battery. The user must press the ✓ button to confirm the warning has been seen.

The second level is usually non-recoverable by the user, and in some cases the only action available is to switch the instrument off.

In both cases a warning/fault code number is given with a brief description of the fault, and a contact name/telephone number to enable the user to further assistance if required. Details of the warning and fault codes are given in **Appendix A**.

Appendix A

A.1 Fault/Warning Codes

Number	Message	Action or Reason
1	Clear log to reset.	Log memory error. Clear the event log
2	Clear log to reset.	Log memory error. Clear the gas log
3	See manual	Memory fault
4	Insert valid cartridge	Insert a valid cartridge. If one is fitted, remove and refit.
5	Insert valid cartridge	Memory error. Replace cartridge.
6	Insert valid cartridge	An Impact instrument does not support serviceable cartridges.
7	Insert valid cartridge	Sensor mix incorrect. Replace cartridge for the required type. This is only generated if the user declines to accept the cartridge's alarm settings.
8	Replace batteries.	Battery unchargeable. Replace the battery pack.
9	Cartridge expired	Fit new cartridge.
10	Cartridge expires in nn days	Fit new cartridge.
11	Calibration due	Calibration is due soon. Recalibrate or fit new cartridge.
12	Check batteries	Mixed battery types, i.e. one dry cell, one rechargeable. Fit two of the same type.
13	Battery empty. Check batteries	Battery too low to operate instrument. Recharge battery or fit new battery pack.
14	Battery low	Recharge battery or fit new battery pack.
15	Switch on/off to reset	Memory error.
16	Pump fault	<ul style="list-style-type: none">• The pump is expected but not fitted.• The pump calibration has failed.
17	Pump blocked	<ul style="list-style-type: none">• Check and remove the blockage.• Check for water or dust in the sampling tube.• Once the above has been checked, press the ✓ button to restart the pump.
18	See manual	Memory error. Incorrect firmware.
19	Passed install by date	Cartridge has exceeded its storage life. Fitting cartridge will reduce lifetime of cartridge and affect warranty.
20	See manual	Cartridge not being activated. Contact Service Center
21	Contact service center	Memory error. An instrument parameter is out of the permitted range.
22	Contact service center	Memory error. A cartridge parameter is out of the permitted range.

Number	Message	Action or Reason
23	Switch on/off to reset	Caused by an unexpected switch off, e.g. poor or intermittent battery contacts. Switch off instrument and switch on again.
24	Please recharge or replace batteries	Insufficient battery voltage to operate the Enforcer. Recharge battery or replace the battery pack.
25	Calibration required.	Recalibrate or fit new cartridge.
26	See manual	Operating temperature specification exceeded. Operate instrument within its specification.
27	See manual	Operating temperature specification exceeded. Operate instrument within its specification.
28	Insert valid cartridge	Cartridge has been removed while instrument is still switched on. Switch off and fit cartridge.
29	Communications error	Check connections to Base Station.
30	Time/date not set	Set clock using PC software
31	Event log nearly full. Clear log to reset.	20% or less remaining. When full the instrument will start overwriting the oldest data. Download the log to retain oldest data.
32	Gas log nearly full. Clear log to reset.	20% or less remaining. When full the instrument will start overwriting the oldest data. Download the log to retain oldest data.
33	Cal log nearly full. Clear log to reset.	20% or less remaining. When full the instrument will start overwriting the oldest data. Download the log to retain oldest data.
34	See manual	Memory error. A sensor parameter is out of the permitted range.
35	Insert valid cartridge	Memory fault. Incorrect format.
36	See manual	Memory error in alternative language. Instrument will revert to English.
50	Switch on/off to reset	<ul style="list-style-type: none"> An electronics fault has occurred. One of the sensors has detected a gas that has caused a large negative cross-sensitivity.
51	Calibration required	Cell is producing an excessive negative reading. Recalibrate.
52	See manual	Sensor overrange. Switch instrument on and off
53	Calibration required	Flammable sensor has been exposed to more than 100ppm H ₂ S. Recalibrate.
54	Low O ₂ – flam inaccurate	Insufficient oxygen for the flammable sensor to operate accurately. Recalibrate or fit new cartridge.

Number	Message	Action or Reason
56	Switch on/off to reset	<ul style="list-style-type: none"> • Faulty sensor or poor cartridge contact • Remove and refit cartridge • Replace suspect sensor (serviceable cartridge) • Replace cartridge.
57	Switch on/off to reset	<ul style="list-style-type: none"> • Software Algorithm Error • Switch instrument off and back on to clear the fault.
58	Switch on/off to reset	<ul style="list-style-type: none"> • Failure of the ADC has been detected • Switch instrument off and back on to clear the fault. • If fault persists, contact supplier.
104	Switch on/off to reset	Oxygen cell fault. Recalibrate or fit new cartridge.
105	Switch on/off to reset	Flammable cell fault. Possible flammable fuse broken. Recalibrate or fit new cartridge
106	Switch on/off to reset	Toxic 1 cell fault. Recalibrate or fit new cartridge
107	Switch on/off to reset	Toxic 2 cell fault. Recalibrate or fit new cartridge
200	Switch on/off to reset	<ol style="list-style-type: none"> 1. A generic software fault has occurred. 2. Switch instrument off and back on to clear the fault. 3. If fault persists, contact supplier.

Find out more

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