ALPHA EX & MIR APPROVED DIESEL PUMP

Applies to the following models ONLY:

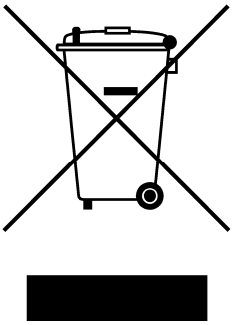
ALPHA...

/50WA	/70WA	/90WA

Please read carefully BEFORE commencing installation.

Registered Office: HYTEK (GB) LIMITED,
Delta House, Green Street, Elsenham, Bishop's Stortford,
CM22 6DS UK.
Registered in England No. 1915382
Tel: +44 (0) 1279 815 600
Email: info@hytekgb.com

ENVIRONMENTAL INFORMATION



UK Regulation SI 2013 3113 requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product must be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities.

PRODUCT DESCRIPTION

This pump is EX certified to dispense diesel or other liquids classed as category 3 in accordance with European Regulation No. 1272/2008. It bears the following certification marking and number:

MANUFACTURED TO: EN13617-1
CERTIFICATE NO: CML 15ATEX9183

CE 2776 Ex II 2 G

This pump is MIR certified in accordance with OIML to dispense diesel or other liquids in viscosity class 2. It bears the following certification marking and number:

UK/0126/0239

IMPORTANT WARNING NOTES

1. On above ground storage tanks an angle check valve fitted with the appropriate spring or pressure regulating valve must be fitted at the tank outlet to prevent loss of fuel under gravity in the event of vandalism or accidental damage.

2. This pump must only be used to dispense diesel or other liquids classed as category 3 in accordance with European Regulation No. 1272/2008. It must not be used to dispense petrol or any other liquid with a similar flash point.

3. Installation of this equipment and its associated tank, pipe work and fittings should only be carried out by qualified fuel installation engineers.

4. The installation must be carried out in accordance with the requirements of EN 60079-14 the latest relevant electrical and local authority regulations and standards.

5. It must not be used with other liquids or for other applications. We will accept no warranty claims or liability if it is used for other liquids or applications.

6. The pump must be located and installed in a climatic environment in accordance with the following:

Temperature	:	-20°C to +45°C
Humidity	:	Class H3 (open location with average climatic conditions)
Environment	:	Open and condensing
Mechanical	:	Class M1 (location with vibration of low significance)
Electrical Disturbance	:	E1 (located in residential, commercial and light industrial environments)

CALIBRATION

The meter on this pump unit can be calibrated electronically to ensure accuracy and reliability but does have the option of being calibrated using the wheel on the side of the meter. Calibration must be carried out by a qualified Trading Standards Officer or authorised notified body in accordance with the Measuring Instruments Directive Module F.

INSTALLATION INSTRUCTIONS

1. Check you have the following items:

   1 off Alpha pump
   1 off delivery hose
   1 off front door key

2. Open the front panel using the key provided.
3. Remove the rear panel, if necessary, and store safely.

MOUNTING

4. Bolt the pump to a firm level foundation by means of the four 14 mm diameter-mounting holes provided.

   NB: If the optional drip tray is to be fitted to the pump it must be sealed to its foundation, with a suitable elastomeric substance, to prevent leaked fuel "wicking" back underneath the pump. To maintain the environmental integrity of the drip tray any possible leak path through the pump mounting holes must also be sealed.

PIPEWORK

5. Connect the 11/2” diameter pipe from the tank to the suction inlet flexible connector of the pump. The inlet thread of the flexible connector flange is 11/2” BSP taper female. Seal the joints with a suitable thread sealing compound. The pipe work must be sealed to the drip tray (if fitted) to ensure no leaking fuel can flow underground. An alternative pipe work entry point, for above ground pipe work, is provided at the rear of the pump base. Push out the plastic cover plate if required.

   NB:On above ground tanks an angle check valve fitted with the appropriate spring or an anti-syphon valve must be fitted in the suction line to prevent spillage or leakage in the event of damage.

6. Connect the delivery hose and selected ATEX approved nozzle to the pump outlet in accordance with the instructions supplied with the individual components. Ensure the nylon hose-sealing washers are in place on the hose end. It should be hand tight plus a quarter turn.

ELECTRICAL

7. Remove the covers from the junction box.

8. Connect a constant 220/240V AC 50 Hz supply, fused at 16 amps, to the terminal block in the junction box as shown on the wiring details diagram.

   NB:The Alpha pump must have a continual 220/240V AC supply, even when not in use

9. If the Alpha is to be operated in conjunction with a key/card system, it must be connected via the Hytek Modbus RS485 protocol. Connections are provided in the junction box and are labelled accordingly. Connection must be made using a suitable screened cable.

10. Ensure all the terminal screws are tight and replace the junction box covers.

INSTRUCTIONS FOR USE

1. Remove the nozzle from the holster.

2. Place the nozzle spout in the fuel tank.

3. Squeeze the nozzle trigger to dispense fuel.

   On completion of the delivery release the trigger and replace the nozzle in the holster.

MAINTENANCE

The Alpha should require minimum maintenance in normal regular use, but as with all mechanical apparatus regular servicing will prolong its life and ensure maximum efficiency & reliability.

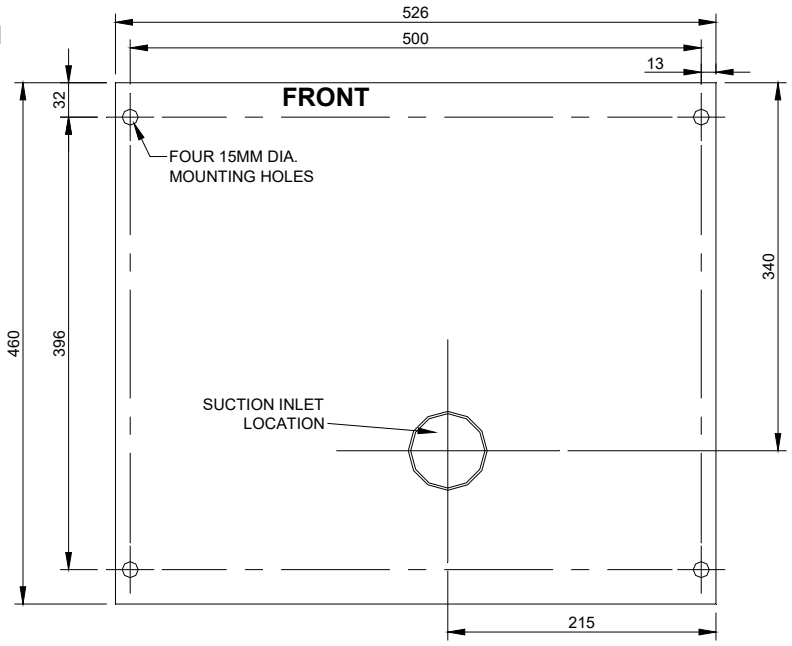
The following should be carried out every 12 months or 1 million litres which ever comes first.

- **Isolate power supply**
- **Inspect & clean or replace pump filter**
- **Inspect & clean or replace nozzle filter**
- **Inspect & replace if necessary the V-belt**
- **Check motor pulley grub screw is tight**
- **Re-calibrate electronic display**

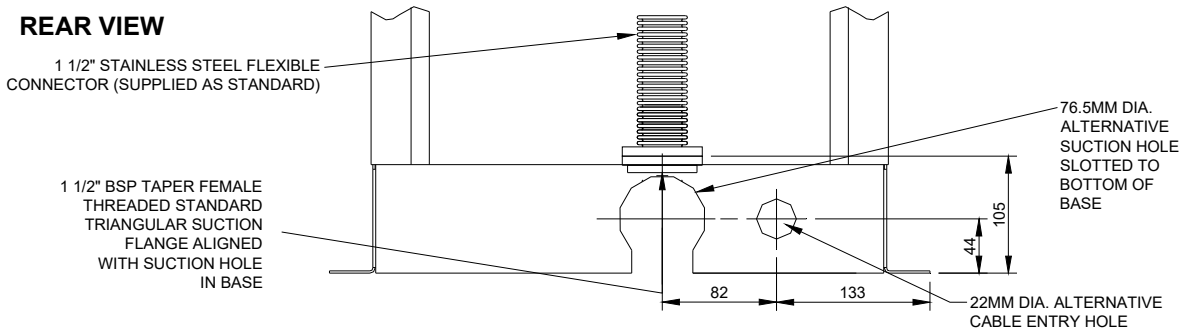
ALPHA BASE AND SUCTION CONNECTION DIAGRAMS

BASE VIEW FROM ABOVE

ALL DIMENSIONS IN MM

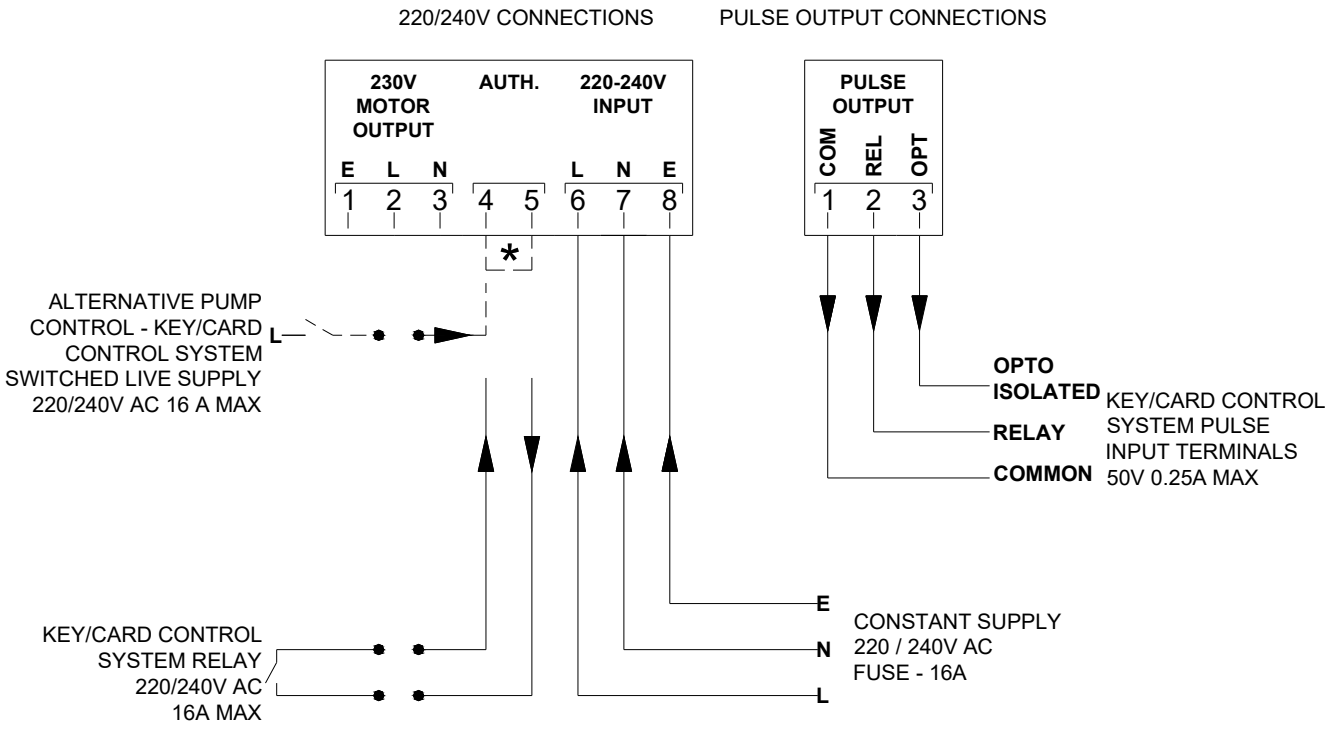


REAR VIEW



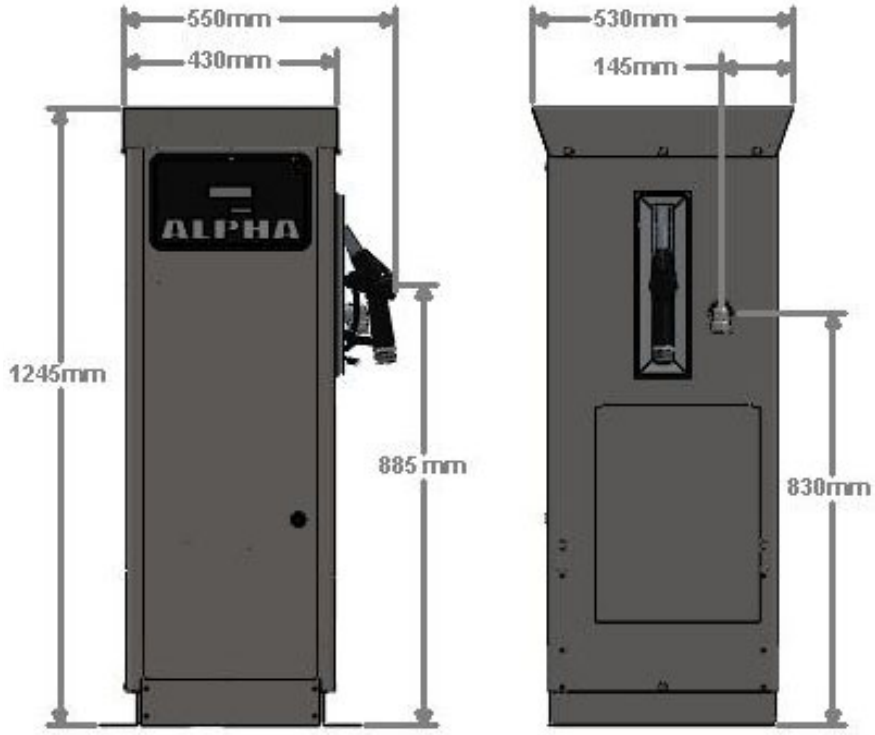
ALPHA INSTALLATION WIRING DIAGRAM

ALPHA MAIN JUNCTION BOX INSTALLATION WIRING DETAILS

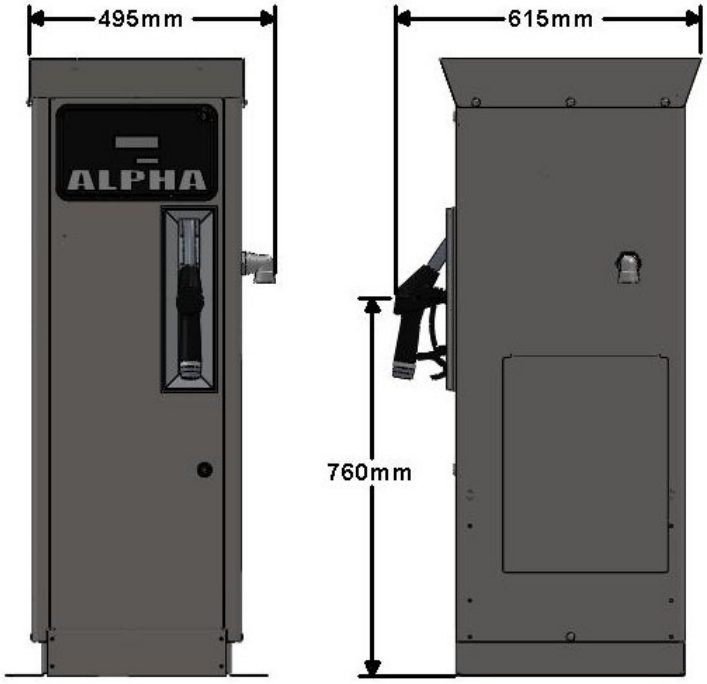


* SUPPLIED WITH LINK FITTED BETWEEN TERMINALS 4 AND 5.
REMOVE LINK FOR REMOTE KEY/CARD CONTROL

ALPHA EXTERNAL DIMENSIONS
SIDE NOZZLE HOLSTER



ALPHA EXTERNAL DIMENSIONS
FRONT NOZZLE HOLSTER



ELECTRONIC DISPLAY/CALCULATOR

FEATURES

6-digit backlit Main LCD display:	Up to 9999.99 or 99999.9 litres per delivery
8-digit backlit totaliser LCD display:	Up to 99999999 litres

Display retained during power failure

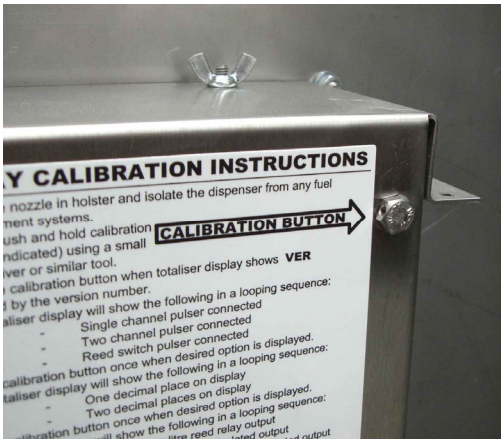
OPERATION

Stand-by mode:	Upper line of LCD display shows previous delivery Lower line of LCD display shows ongoing total
Nozzle removed:	Upper line shows “all eights” then “all zeros” Lower line shows “FUELLING” Pump starts
Fuel drawn:	Upper line shows litres dispensed Lower line shows “FUELLING”
Nozzle Returned:	Pump stops Upper line of LCD display shows previous delivery Lower line of LCD display shows ongoing total

CALIBRATION PROCEDURE - (MUST BE CARRIED OUT TO ENSURE PUMP ACCURACY)

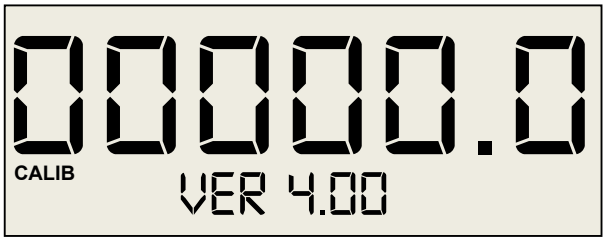
1. Ensure the nozzle is stowed in the holster and the dispenser is isolated from any fuel management systems.

2. Remove calibration button cover bolt from rear of display / calculator housing (if fitted).

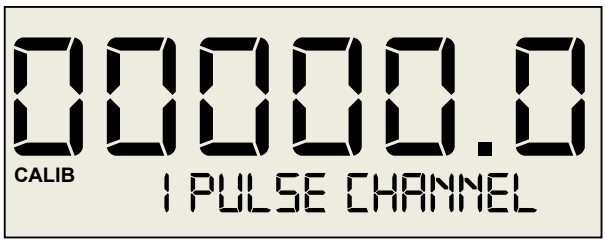


3. Gently push and hold the calibration button using a small screwdriver or similar tool.

4. Release the calibration button when the totaliser display shows **VER** followed by the version number on the lower line of the display.



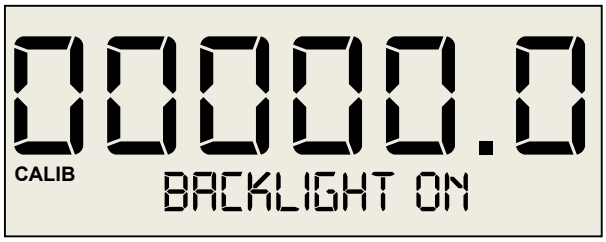
5. The lower line will show the following in a looping sequence:
   1 PULSE CHANNEL - Single channel pulser connected
   2 PULSE CHANNEL - Two channel pulser connected
   REED PULSER - Reed switch pulser connected



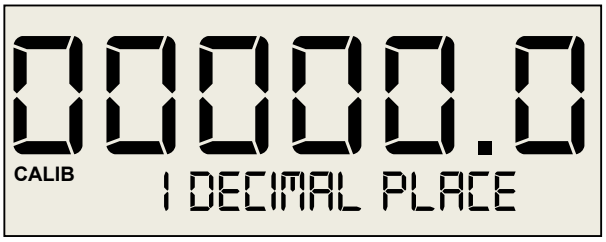
   Press calibration button once when desired option is displayed.
   Select **2 PULSE CHANNEL** for MID/OIML Alpha, **REED PULSER** for Alpha fitted with PULS.E18 reed switch pulser (pre-August 2003) or Adblue™ Alpha and **1 PULSE CHANNEL** for all other Alpha versions.

6. The lower line will show the following in a looping sequence:
   LITRES – Display measures in litres.
   GALLONS – Display measures in gallons (Imperial or US)
   Press calibration button once when desired option is displayed.

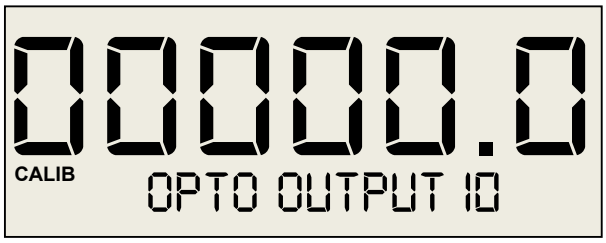
7. The lower line will show the following in a looping sequence:
   BACKLIGHT ON – backlight on constantly.
   BACKLIGHT OFF – backlight off.
   ON FOR FUELLING – backlight only on during fuelling.
   Press calibration button once when desired option is displayed.



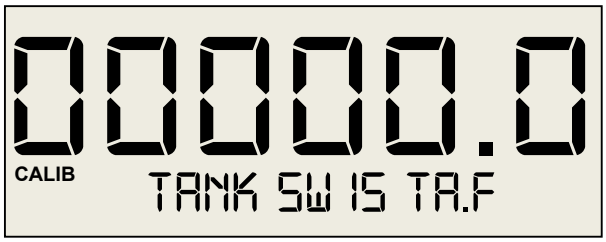
8. The lower line will show the following in a looping sequence:
   1 DECIMAL PLACE - One decimal place on display
   2 DECIMAL PLACE - Two decimal places on display
   Press calibration button once when desired option is displayed.



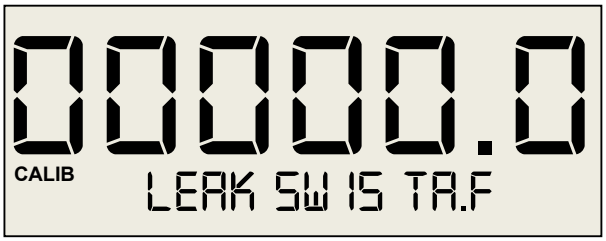
9. The lower line will show the following in a looping sequence:
   REED RELAY 10 - Ten pulse per litre reed relay output.
   OPTO OUTPUT 10 - Ten pulse per litre opto-isolated output.
   OPTO OUTPUT 100 - One hundred pulse per litre opto-isolated output.
   Press calibration button once when desired option is displayed.



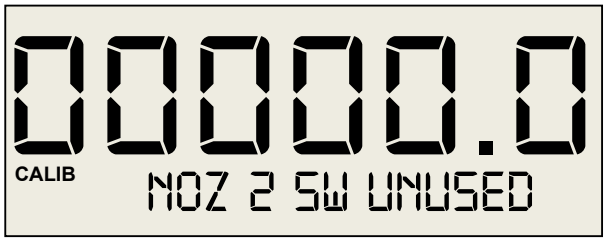
10. The lower line will show the following in a looping sequence:
    TANK SW UNUSED – No “tank empty” switch connected. **SELECT THIS OPTION FOR MID APPROVED DISPENSER.**
    TANK SW IS TA.F – “Tank empty” switch connected is Hytek TA.F type* (*Feature coming soon)
    TANK SW NOT TA.F – “Tank empty” switch connected is standard “normally closed” float switch* (*Feature coming soon)



11. The lower line will show the following in a looping sequence:
    LEAK SW UNUSED – No “pump leak” switch connected. **SELECT THIS OPTION FOR MID APPROVED DISPENSER.**
    LEAK SW IS TA.F – “pump leak” switch connected is Hytek TA.F type
    LEAK SW NOT TA.F – “pump leak” switch connected is standard “normally open” float switch



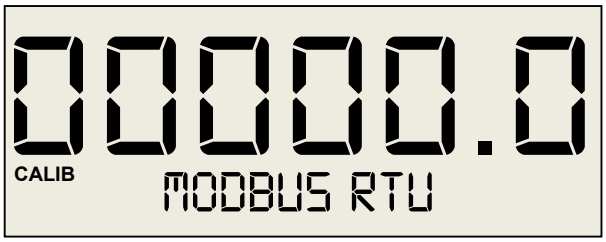
12. The lower line will show the following In a looping sequence:
    NOZ 2 SW UNUSED – No additional /remote nozzle switch connected. **SELECT THIS OPTION FOR MID APPROVED DISPENSER.**
    2nd NOZ SW N/O– Additional nozzle switch is normally open type.
    2nd NOZ SW N/C – Additional nozzle switch is normally closed type.



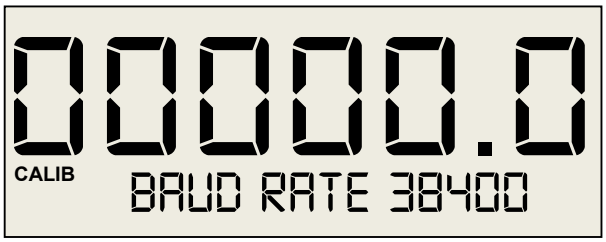
13. The lower line will show the following in a looping sequence:
    STAND ALONE - Pump external serial interface not used.
    NETWORK – Pump connected to a network via the RS485 output.
    MANAGED – Pump managed using the MODBUS protocol via the RS485 output. **SELECT THIS OPTION FOR MID APPROVED DISPENSER CONNECTED TO AN MID APPROVED FUEL CONTROL SYSTEM.**

If **STAND ALONE** was selected in 13. above proceed to 18. If MANAGED was selected proceed as follows.

14. The lower line will show the following in a looping sequence:
    MODBUS RTU – Select this option if the pump is connected to a Hytek FC20 or a Fueltek FT4000 control system.
    MODBUS ASC II – Select this option for an alternative Modbus option.

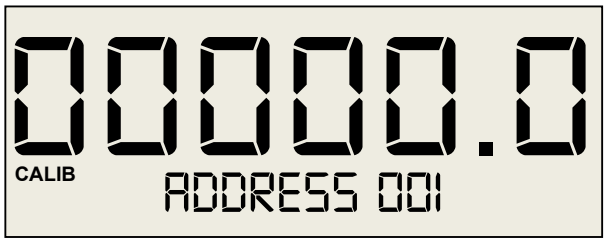


15. The lower line will show the following in a looping sequence:
    BAUD RATE 9600
    BAUD RATE 19200
    BAUD RATE 38400
    Select the required Baud rate. Select **38400** if the pump is connected to a Fueltek fuel control system.



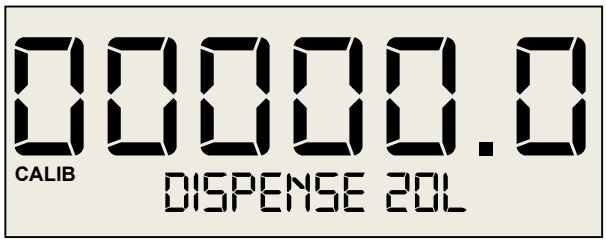
16. The lower line will show the following in a looping sequence:
    NO PARITY, EVEN PARITY and **ODD PARITY**
    Select the required parity. Select **NO PARITY** if the pump sis connected to a Fueltek fuel control system.

17. The lower line will show **ADDRESS 001** with the first numerical digit counting up to 3 and then back to 0 in a looping sequence. Select the required first digit of the pump address in the managed network. Repeat with the second and third digits which count up to 9.



18. The lower line will show the following in a looping sequence:
    SAVE AND EXIT – Save all settings entered and return to normal operation.
    CALIBRATE PUMP – Continue and calibrate pump with 20 litre measure.
    ABANDON CONFIG – Do not save any settings entered and return to normal operation.

19. If **CALIBRATE PUMP** was selected, **TAKE NOZZLE** will be shown.
    Take the nozzle (the lower line will show **DISPENSE 20L)** and dispense 20 litres into a calibrated test measure.



20. Once 20 litres have been dispensed hang up the nozzle. The lower line should show **CALIBRATION OK**. If there is an error in the calibration the relevant error message will be displayed.

ERRORS

If an error occurs **ERROR**, followed by a brief description is shown on the lower display. The errors are classified as follows:

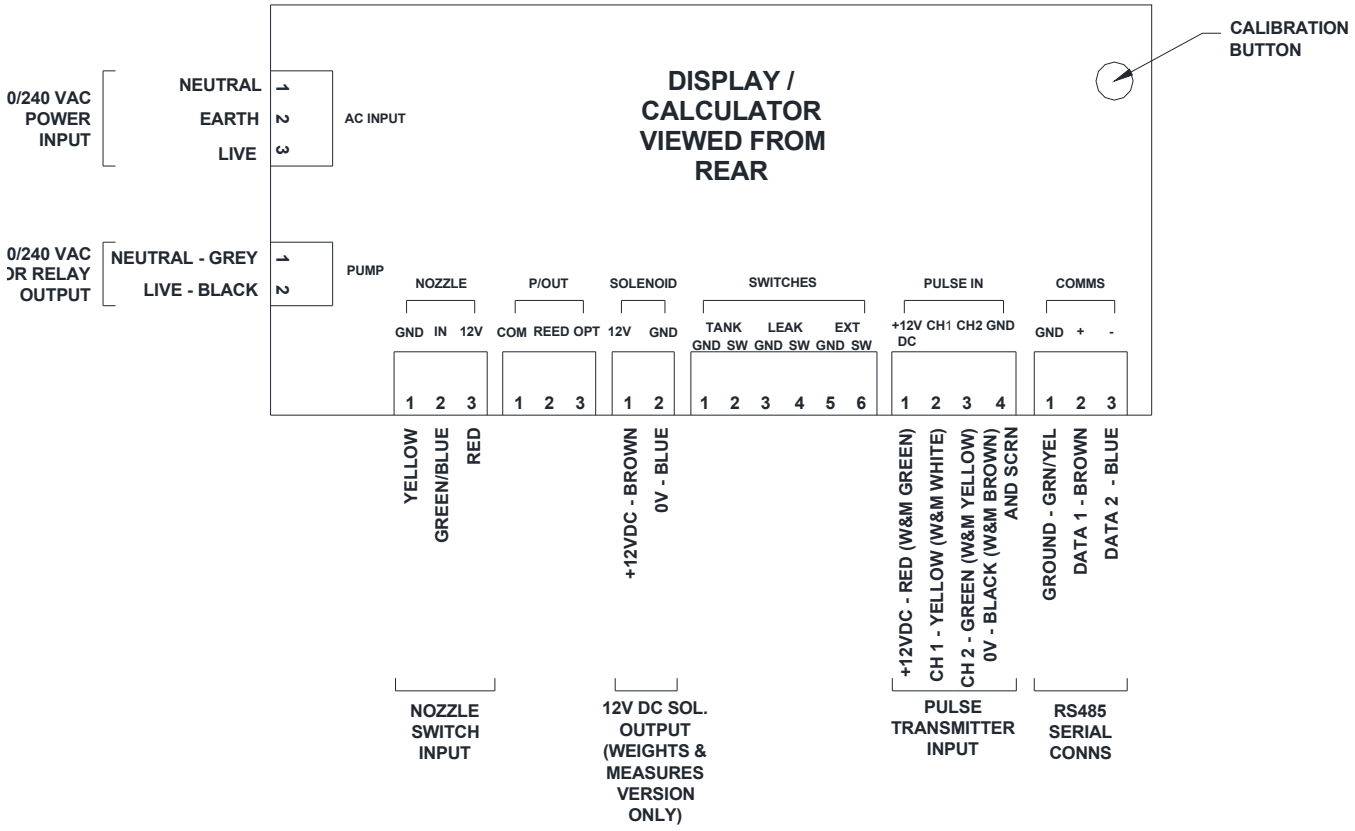
FLOW TOO FAST	The pulser has run too fast (in excess of 300 pulses per second)
UNAUTH FLOW	The meter has turned without the nozzle being removed
CALIBRATE FAIL	A time delay of 2 minutes or more has occurred during the 20-litre calibration.
PULSER SIGNAL	One of the pulse transmitter's pulse trains has been interrupted.
PULSE REVERSE	The meter has run backwards during a delivery
PULSER POWER	The pulser has been disconnected

The error condition is maintained until the nozzle is returned to its holster, for at least 2 seconds, and then removed again to restart the fuelling sequence.

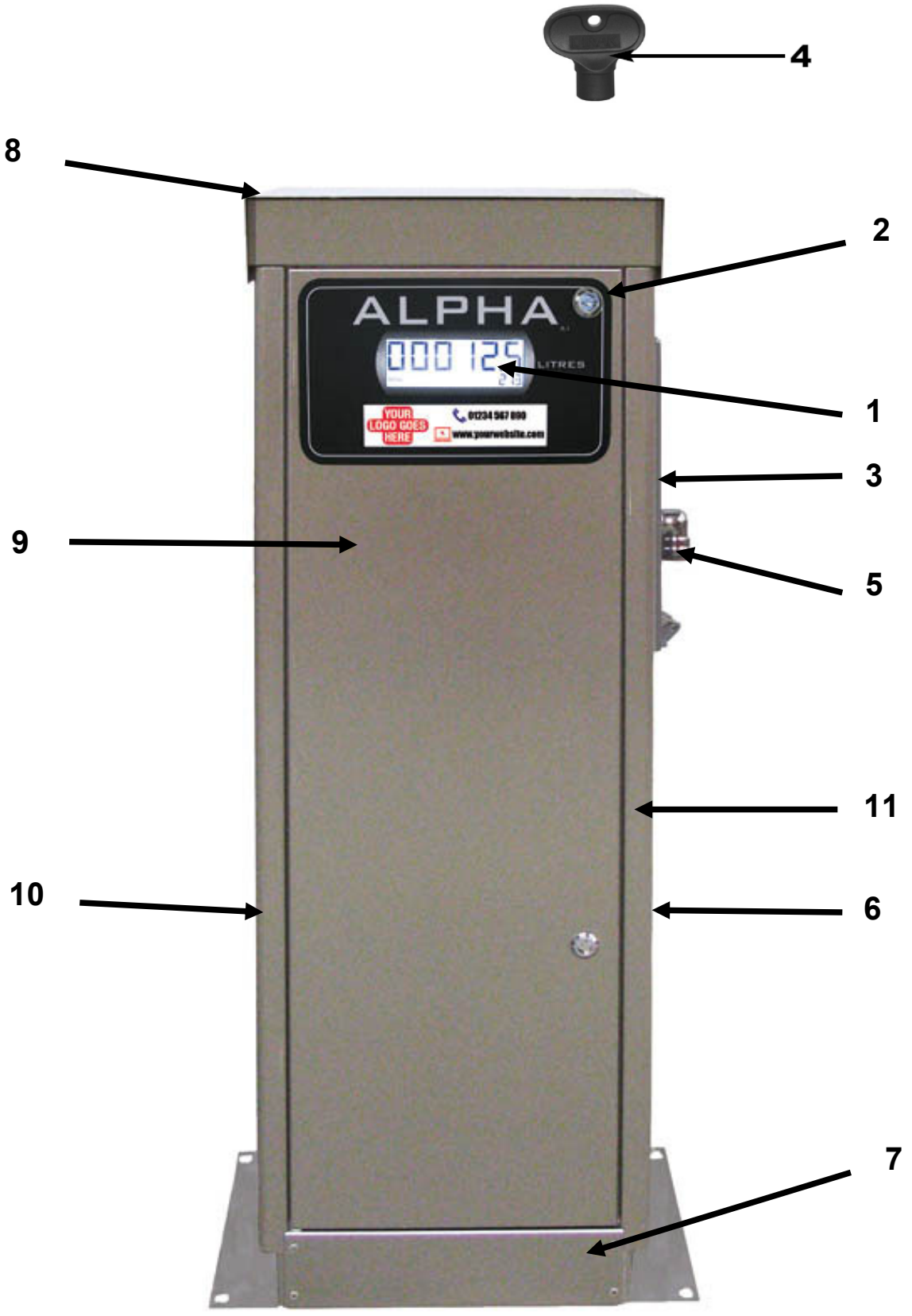
TIMEOUT

If, during a delivery, no fuel is dispensed for 2 minutes the display will show **TIMEOUT** alternating with **REPLACE NOZZLE** and the pump will stop running until the nozzle is returned to its holster, for at least 2 seconds, and then removed again to restart the fuelling sequence.

DISPLAY CONNECTION DIAGRAM

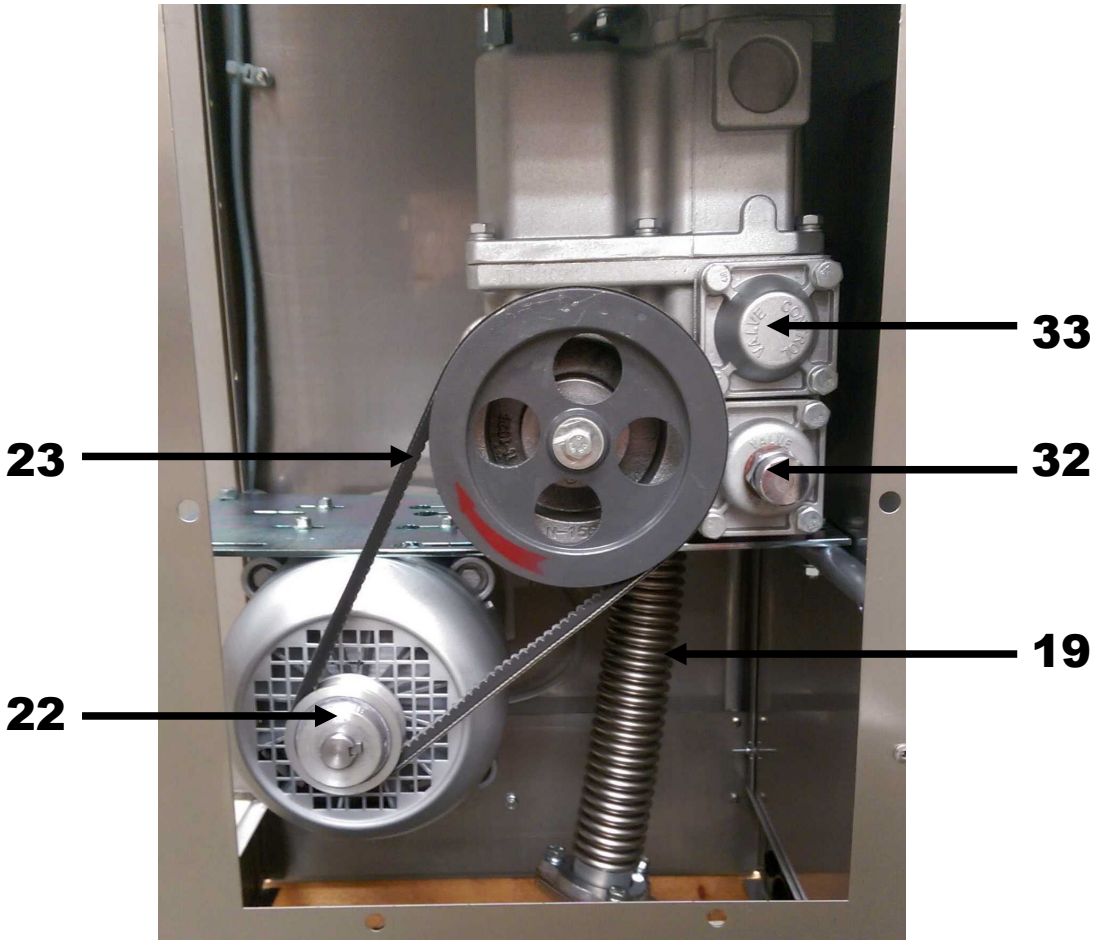


ALPHA EXTERNAL VIEW



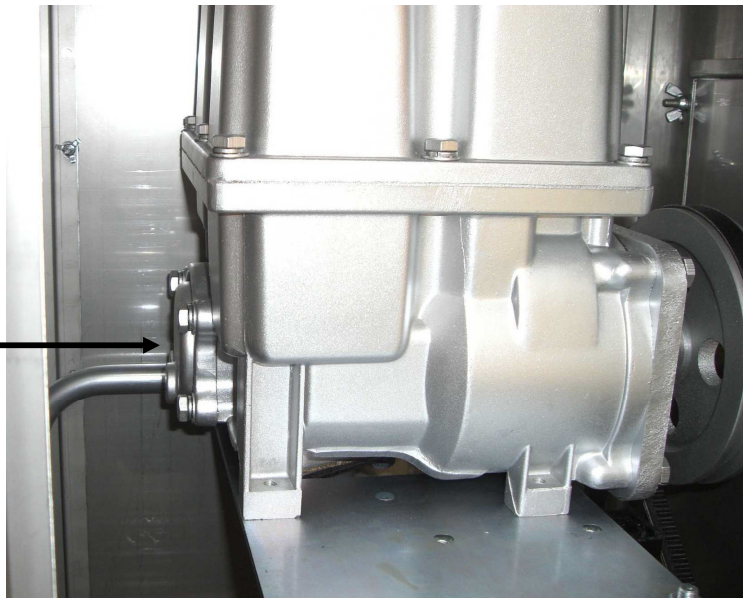
ALPHA INTERNAL VIEW

ALPHA SIDE ACCESS PANEL VIEW



ALPHA PUMP UNIT FILTER LOCATION

PUMP UNIT FILTER LOCATION AS VIEWED FROM THE FRONT



ALPHA PARTS LIST

REF	PART DESCRIPTION	PART NO. 50WA	PART NO. 70WA	PART NO. 90WA
	EXTERNAL COMPONENTS			
1	LCD DISPLAY UNIT	ALP.DISP.PCB.3A	ALP.DISP.PCB.3A	ALP.DISP.PCB.3A
	(Above item includes LCD, transformer board and fitting kit)			
2	LOCK (x 2)	ALP.LOCK3	ALP.LOCK3	ALP.LOCK3
3	NOZZLE HOLSTER WITH SWITCH	ALP.NOZBOOT.A	ALP.NOZBOOT.A	ALP.NOZBOOT.A
4	DOOR KEY	209.KEY	209.KEY	209.KEY
5	OUTLET ELBOW	ELB.4FFCR	ELB.4FFCR	ELB.4FFCR
6	SIDE ACCESS PANEL	ALP.ACCPAN3	ALP.ACCPAN3	ALP.ACCPAN3
7	MOUNTING BASE	ALP.BASE3	ALP.BASE3	ALP.BASE3
8	TOP CAP	ALP.CAP3	ALP.CAP3	ALP.CAP3
9	DOOR	ALP.DOORASS3	ALP.DOORASS3	ALP.DOORASS3A
	DOOR (FRONT NOZZLE OPTION)*	ALP.DOORASS.F3	ALP.DOORASS.F3	ALP.DOORASS.F3A
10	SIDE PANEL	ALP.SPAN.BL3	ALP.SPAN.BL3	ALP.SPAN.BL3
11	SIDE PANEL WITH HOSE OUTLET	ALP.SPANH3	ALP.SPANH3	ALP.SPANH3
	SIDE PANEL WITH HOSE OUTLET (FRONT NOZZLE OPTION)	ALP.SPANH.F3	ALP.SPANH.F3	ALP.SPANH.F3
	INTERNAL COMPONENTS			
14	DOOR STAY	ALP.DSTAY3	ALP.DSTAY3	ALP.DSTAY3
15	PULSER	PULS.W	PULS.W	PULS.W
16	4 PISTON METER (2 REV PER LITRE)	209A.METER.REP	209A.METER.REP	209A.METER.REP
17	PUMP UNIT (COMPLETE)	209A.PASSY.W	209A.PASSY.W	209A.PASSY.W
18	MOTOR	MOT.E75.ATEX	MOT.E75.ATEX	MOT.E75.ATEX
19	FLEXIBLE SUCTION CONNECTOR	TTLB	TTLB	TTLB
20	INLET FLANGE*	FLNG	FLNG	FLNG
21	INLET GASKET*	GSK.TRI	GSK.TRI	GSK.TRI
22	PULLEY	PULL.2C	PULL.25C	PULL.3C
23	PULLEY BELT*	VBLT.275	VBLT.28	VBLT.285
24	PUMP MOUNTING FRAME (x 2)	ALP.PFRAME3	ALP.PFRAME3	ALP.PFRAME3
25	PUMP MOUNTING PLATE (x 2)	ALP.PPLATE3	ALP.PPLATE3	ALP.PPLATE3
26	SOLENOID VALVE	ALP.SOL.A	ALP.SOL.A	ALP.SOL.A
27	METER OUTLET PIPE*	ALP.OUTPIPE.W	ALP.OUTPIPE.W	ALP.OUTPIPE.W
28	DISPLAY COVER	ALP.DISPCOV3	ALP.DISPCOV3	ALP.DISPCOV3A
29	JUNCTION BOX	ALP.DBOX3H	ALP.DBOX3H	ALP.DBOX3H
30	RELAY (INSIDE JUNCTION BOX)*	ALP.RELAY	ALP.RELAY	ALP.RELAY
31	UPPER PANEL (x 2)	ALP.UPAN3	ALP.UPAN3	ALP.UPAN3
32	BY-PASS VALVE			
33	CHECK VALVE			

*Not shown on illustration

UK/EU DECLARATION OF CONFORMITY

Company Name: **Hytek (GB) Ltd**

Address: **Delta House, Green Street, Elsenham**
Bishop's Stortford, Hertfordshire, CM22 6DS

Date of Issue: **21st August 2023**

Equipment Details: **Alpha ATEX Fuel Pumps – MIR Approved**
ALPHA/50WA, ALPHA/70WA, ALPHA/90WA

Applicable Directives: & Standards

SI 2016 1091 Electromagnetic Compatibility Regulations
2004/108/EC EMC Directive & 2014/30/EU EMC Directive

SI 2016 1101 Electrical Equipment Safety Regulations
2014/35/EU Low Voltage Directive

SI 2008 1597 Supply of Machinery Safety Regulations
2006/42/EC Machinery Directive

SI 2016 1105 Pressure Equipment Safety Regulations
2014/68/EU Pressure Equipment Directive

SI 2013 3113 Waste Electrical & Electronic Equipment Regulations
2012/19/EU Waste Electrical & Electronic Equipment Regulations

SI 2012 3032 Restriction of Use of Certain Hazardous Substances Regulations
2011/65/EU Restriction of Hazardous Substances Directive (RoHS2)

& 2014/34/EU ATEX Directive
EN 13617-1 & EN 1127-1

EU Type examination Certificate Number:	CML 15ATEX9183
Issued by Notified Body:	CML Ltd. Number 2503 Unit 1 Newport Business Park, New Port Road Ellesmere Port, CH65 4LZ UK
Marking:	Ex II 2 G EN 13617-1:2012 Ta= -20°C to + 40°C
Notified Body Issuing QA: Notification Certificate	CML B.V Number 2776 Chamber of Commerce No 6738671 Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands

2016 SI 1153 Measuring Instruments Regulations
Type Examination Certificate No.: UK/0126/0239
Approved Body: NMO Number 0126
Stanton Ave, Teddington TW11 0JZ

Declaration Number: **UK140 Issue 6**

On behalf of the above-named company, I declare under our sole responsibility that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives.

Clive Wellings

Clive Wellings, Process Co-ordinator
21st August 2023,
Bishop's Stortford, Herts