Installation, Operation & Maintenance **Instructions**

Nuclear Qualified Switch Performance Series

Vapour Pressure and Gas Filled
Temperature Switches wall mounted
Models: 721/2, 771/2

SAFETY INSTRUCTIONS

Information ...points out useful tips, recommendations and information for efficient and trouble-free operation.

CAUTION! ...indicates a potentially dangerous situation that can result in light injuries or damage to equipment or the environment, if not avoided.

WARNING! ...indicates a potentially dangerous situation that can result in serious injury or death, if not avoided.

WARNING! ...identifies hazards caused by electric power. Should the safety instructions not be observed, there is a risk of serious or fatal injury.

WARNING! ...indicates a potentially dangerous situation that can result in burns, caused by hot surfaces or liquids, if not avoided.

WARNING! ...indicates a potentially dangerous situation in the hazardous area that can result in serious injury or death, if not avoided.

Ex applications ...special instructions for Ex applications.

Foreword

The unit is manufactured, checked and supplied in accordance with our published specification, and when installed and used in normal or prescribed applications, with the lid in place and within the parameters set for mechanical and electrical performance, will not cause danger or hazard to life or limb.

Warning: The user's attention is drawn to the fact that, when the unit is 'live' with respect to electrical supplies, a hazard may exist if the unit is opened or dismantled.

Warning: Units must be selected and installed by suitably trained and qualified personnel in accordance with appropriate codes of practice so that the possibility of failure resulting in injury or damage caused by misuse or misapplication is avoided.

Allowed over range

Temperature exceeding the adjustable range can be allowed up to the max temperature stated on nameplate.
Electrical overvoltage can damage the microswitch as well as electrical transient.

Ambient Temperature

The surface temperature of the instrument is influenced by the process temperature, electrical working conditions, installation method and ambient environmental conditions.
Instrument should be mounted to avoid excessive heat transfer from the process lines or adjacent plant.

Tools to be used for checking and adjusting the set point

The tools needed are:

- Allen Key 1.5 mm
- Wrench Key 5.5mm
- Screwdriver
- Tools to assembly the quick connector (see Annex)

The following calibration circuit is to be use to proceed with the calibration of the set point or periodical functional verification.
The temperature gauge should have a range similar to the instrument under verification with an accuracy consistent with the accuracy required to calibrate the set point.

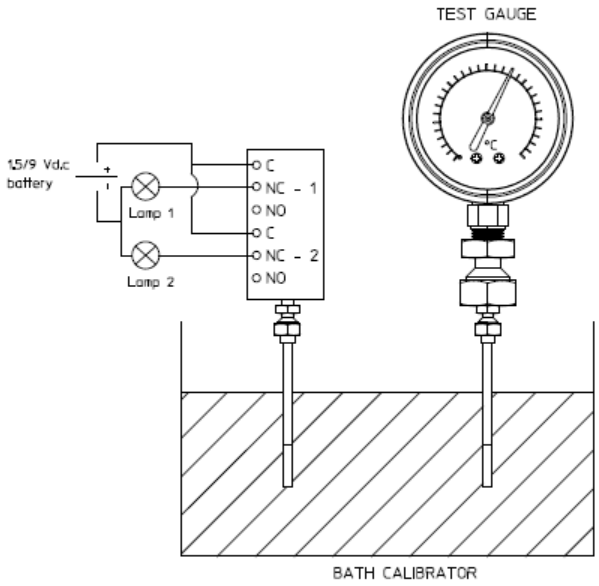


Fig. 1 - Calibration Circuit

In case of using a dry block calibrator, make sure that the bulb is fully inserted into the calibrator, with its tip in contact with the metal bottom of the dry block. Use a sleeve if necessary.

Operating principle

Temperature Switch models 7** are bellows operated switches.

The operating principle is based on a pressure measuring element, connected via a capillary tube to a bulb.
The system is filled with a gas or a volatile liquid.
The pressure of the filled gas or volatile liquid is proportional to the temperature of the bulb.
The pressure is converted into a force by the measuring element and balanced by a user adjustable control spring. When the force exceed that created by the control spring the measuring element moves causing a beam to actuate a snap-acting microswitch.

INSTALLATION

Mounting

The instruments are designed to be mounted vertically. They must be mounted to a wall or panel using the backplate provided using **the suggested screws**. Select the mounting point so as to avoid excessive shock, vibration or temperature fluctuation. Instruments should be mounted to avoid excessive heat transfer from the process lines or adjacent plant.

MOUNTING

Remote Thermal System with Capillary

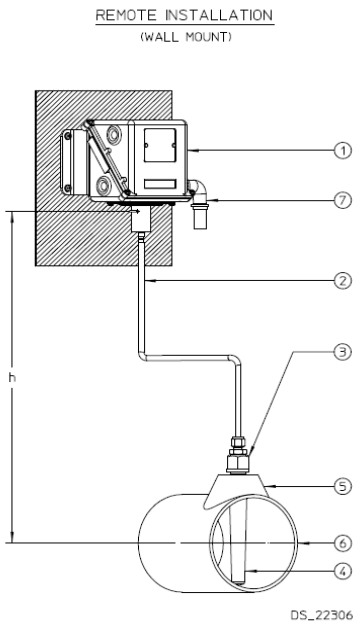
The semi-rigid extension is fitted with a sliding compression gland to accommodate different thermowells and different immersion length.
The capillary must be protected by a sheath along the path, avoiding making too sharp curves, and must be fixed to the structure with cable ties. Any excess capillary must be rolled up and also fixed rigidly. The roll must not have a diameter less than 200 mm

Vapour pressure temperature switches

Mount the sensing bulb so that the capillary end is above the bulb and the bulb is level with, or no more than 250mm below the base of the instrument .
Instrument classified SAMA IIA
In case of difference in height between bulb and enclosure greater than 250 mm the set point can be corrected during calibration (dimension h).
The set point compensation table for bulb elevation error is available **on request**.
Instrument classified SAMA IIC
In case of difference in height between bulb and enclosure greater than 250 mm the instrument may be affected by a random set point error as a function of the difference in height (dimension h).

Gas filled temperature switches

The system is not affected by the bulb elevation error.



1-Temp. switch
2– Capillary
3-Thermowell
4-Bulb
5-Branch connection fitting
6– Process
7-Swivel Adaptor/Cable gland

Fig. 2 - Remote Installation

MOUNTING

Sensor suitable for Ambient Temperature Control

Instrument should be mounted to avoid excessive heat transfer from the process lines or adjacent plant in calm air. In case of rack installation, see Fig.6 for suggested dimensions.

Electrical connections

One electrical entry is provided.
In case of M20x1.5 entry a cable gland can be assembled. The thread type and size is marked on the enclosure, just below the connection.

Warning: fittings used for the electrical connection shall be suitable for the radiation environment and shall guarantee the instrument a degree of protection (IP66).

Warning: To ensure the degree of protection IP66 and prevent loosening of the cable gland, it is recommended to seal the threads with an anaerobic sealant, for example, Loctite ® 5772 or equivalent.

In case of Souriau or SAIB quick connector the instrument is provided with a receptacle suitable for the corresponded plug according to the information on Annex 2.
To wire the plug Follow the relevant information provided on Annex 3 and 4.
In case of Harting HAN7D the plug is provided with the instrument. To wire the plug see Annex1.

Wiring

Warning: Disconnect all supply circuits before wiring. Wire in accordance with local and national codes. Do not exceed electrical ratings stated in literature and on nameplate.

Warning: If the ambient temperature exceeds 60 °C it is recommended to use cables suitable for operating temperatures of at least 105 °C.

Warning: If the instrument is installed on radiation environment a suitable cable is to be selected.

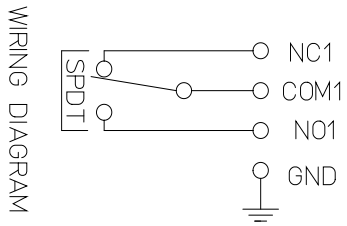
Instrument with cable gland.

Insert bare wires fully into the terminal block and tighten securely. Keep wiring tails to a minimum and check that wires do not interfere with the operating mechanism.
Use the earthing / grounding points provided. Use cables no larger than 2.5 mm^2 (14 awg)
The three switch terminals are clearly marked “NORMALLY CLOSED”, “NORMALLY OPEN” and “COMMON”. The following diagram can be used as a guide for wiring.

The unit is supplied with the cable wired to the instrument. The end of the cable has a heat shrink tubing marked as N.C.1, N.O.1, COM1 and GND.

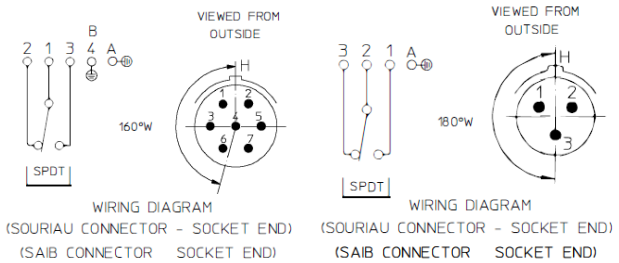
N.C.1 - Normally closed
N.O.1 - Normally open
COM1. - Common
GND. - Earth or Ground.

The cable wires are also marked with the numbers viz. 1, 2 and 3 to identify when the heat shrink tubing comes off. These numbers are related as shown in figure below. The earth/ground is a bare wire with no markings and it is earthed to the main enclosure.



Souriau or SAIB receptacle

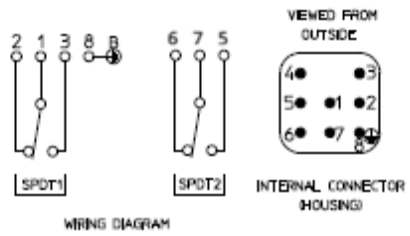
The unit is supplied pre wired receptacle connector (8N45S or 254 type) wired according the following figure.



A– External earth protective terminal
B– Internal earth protective terminal

Harting receptacle

The unit is supplied pre wired receptacle connector wired according the following figure.



BRAIDING ON CABLE TO BE USED FOR EARTH RETURN FROM HARTING HOOD

Earthing connections

Warning: The instrument is supplied with two protective earthing/grounding connection, one inside and one outside the enclosure. The two connection provide effective connection of a conductor with a cross-sectional area of at least 4 mm^2.

OPERATION

Set point adjustment

Temperature Switches are supplied calibrated at the midpoint of their range and to a falling temperature unless otherwise specified.
If the instrument has been ordered with a specific calibration values the adhesive label shows the set point values.
It is recommended to verify the calibration values marked on the adhesive label, prior to installation.
To adjust the set point using the indication scale, proceed as follows:

1. Isolate the instrument from process and power.
2. Remove the lid to allow access.
3. Rotate the adjuster screw to move the indicator along the scale (see Fig. 4). Rotate counter-clockwise to increase the set point and clockwise to decrease the set point.

Warning: The scale indications are obtained for set point adjusted with decreasing temperature.

Caution: Do not attempt to set the switch outside the scale limits.

4. Retighten the locking screw taking care not to overtighten.
5. Reassemble the instrument lid.

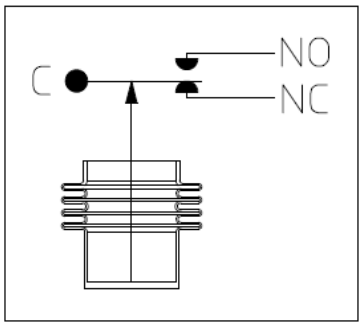


Fig. 3 - Condition of the contact at Low Range Limit (if above ambient temperature)

Set point adjustment for models 722, 772

Caution: To adjust or calibrate the set point on these models is necessary before proceed with the calibration of the dead band **with the set point adjusted at falling temperature**.

Calibration of dead band Model 722, 772 only

The instrument is normally delivered with the plastic wheel adjusted **at minimum value of its range.**
The calibration of the dead band is obtained using the following procedure.
Immerse the bulb of the instrument in the thermostatic bath in vertical.
Slacken the lid lock screw and unscrew the lid.
Connect the warning lamps on both the terminals.

1. Rotate the adjustment wheel in the sense shown in **Fig. 5** placing letter A on the mark if not.
2. Raise temperature in the circuit until reaching the set point increasing and record its value (Ts).
3. Reduce temperature in the circuit until reaching the set point falling and record its value (Tr).
4. The difference Tr - Ts = V_1 represents the dead band factory adjusted value.
5. Rotate the adjustment wheel in the sense shown in **Fig. 5** placing letter B on the mark.
6. Repeat operations 2. and 3. and measure the new dead band V_2.
7. The difference V_2-V_1=D represent the increased dead band obtained rotating the wheel from A to B.
8. If V_d is the desired dead band, the ratio V_d / D give the position of the wheel 1=A, 2=B, 3=C, 4=D, 5=E, 6=F
9. Place the letter corresponding to the ratio on the mark and measure the obtained dead band.
10. Proceed by successive approximations until reaching the desired dead band value with enough accuracy.

Then proceed with the set point adjustment.

Warning: Rotating the knurled plastic wheel on the micro will alter the operating value on rising temperature only.

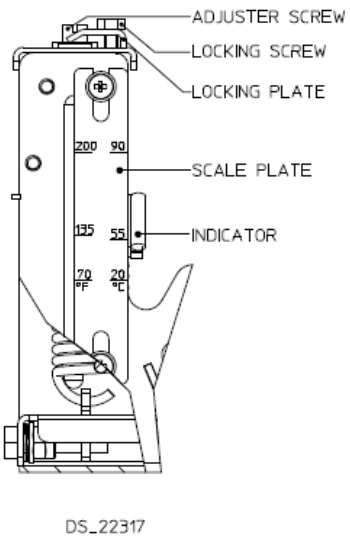


Fig. 4 - Set Point adjustment

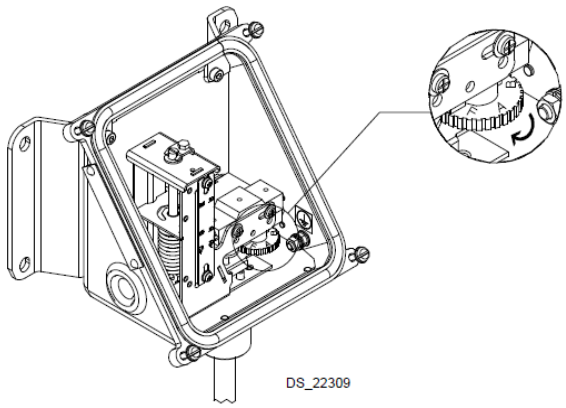


Fig. 5 - Adjustment wheel

Calibration

Please follow the below suggested steps to calibrate the set point of the instrument:
Immerse the bulb of the instrument in the thermostatic bath in vertical position (see Fig.1).
The thermostatic bath must be configured to produce a temperature ramp not exceeding 0.5°C/ min. Remove the lid. Connect the warning lamp according the desired function.
While the unit may be set anywhere within its range, best practice is to select a set point between 25% and 75% of the span to ensure optimum performance.

Connection C-NO terminal

- The circuit is **open** at the normal operating temperature, the switch close the circuit as the temperature increase when the desired value is reached.
- The circuit is **closed** at the normal operating temperature, the switch open the circuit as the temperature decrease when the desired value is reached.

Connection C-NC terminal

- The circuit is **closed** at the normal operating temperature, the switch opens the circuit as the temperature increases when the desired value is reached.
- The circuit is **open** at the normal operating temperature, the switch closes the circuit as the temperature decreases when the desired value is reached.

Increase the temperature slowly up to the setpoint.
Slacken the set point lock screw.
Using a suitable spanner, rotate the range adjuster clockwise to increase the set point and counter-clockwise to decrease the set point up to the relative lamp turn ON (or OFF).
Return to the normal operating temperature and increase (or decrease) the temperature, the corresponding lamp turns ON (or OFF). Read the temperature on the test gauge. If necessary use the range adjuster and recheck again using the lamp until the set point is achieved with the required accuracy.
Tighten the set point lock screw.
Close the instrument lid.
Write the set point on the adhesive label.

Periodical calibration check.

Immerse the bulb of the instrument in the thermostatic bath in vertical position (Fig.1).
Slacken the lid lock screw and unscrew the lid.
Connect the warning lamp according the desired function.
Set the thermostatic bath to increase temperature at a rate not higher than 0.5 °C/minute.

Set point calibrated with increasing temperature

Slowly increase the temperature up to normal operating temperature (as minimum: set point - dead band - 2x Repeatability) and wait for the stabilisation of the temperature (5 minutes). Increase slowly the temperature up to the set point (the warning lamp turns ON).
Record the temperature read on the test gauge.
Slowly reduce the temperature up the reset point (the warning lamp turns OFF).
Repeat the above operation twice.

Set point calibrated with decreasing temperature

Increase the temperature up to the normal operating temperature (as minimum: set point + dead band + 2x Repeatability) and wait for the stabilisation of the temperature (5 minutes).
Decrease slowly the temperature up to the set point (the warning lamp turns ON). Record the temperature read on the test gauge.
Slowly increase the temperature up the reset point (the warning lamp turns OFF).
Repeat the above operation twice.

Evaluation of set point value and repeatability

With all the above values detected, calculate:

- Average set point value
- Repeatability as the max difference of the detected set point values.

If the average set point is different from the expected, instrument must be recalibrated.
If the repeatability is higher than the value in the Technical Data Sheet of the product replace the instrument with a new one and contact the factory.

End of verification

Remove the instrument from the thermostatic bath and disconnect the warning lamp.
Close the instrument lid and tighten lid lock screw.

Warning: the bulb can be hot!
Close the instrument lid.

Commissioning

The instrument starts operating as soon as it is energised and the sensing bulb is installed in the thermowell.

Inspections and maintenance

The instrument requires no routine maintenance. However, periodic inspection is recommended. Inspections should be carried out at least once a year depending on operating conditions, environmental conditions, and the customer's maintenance plan.

Caution: Instruments performing alarm or shutdown safety functions should be periodically tested to verify correct operation.

Recommended inspection intervals are:
at commissioning, at 6 months and 12 months during the first year of operation, and once per year thereafter.

If further maintenance is required seek advice from Delta Mobrey before attempting repair or replacement of parts.

Periodical visual inspection

Slacken the lid lock screw and unscrew the lid
Warning: Before removing the lid or the cable gland check that the instrument is de-energised.

- Check all terminals for tightness.
- Check that cable tails are not fouled or chafed.
- Check for internal condensation.
- Check that the gasket is seated properly in the lid recess and is not worn.

Periodical functional verification

Verification involves checking the set point.

This verification is usually done by removing the instrument from the plant and perform the verification on a test room (see periodical calibration check paragraph).

Warning: Verify that loop is in a safe configuration before acting on the instrument. Do not dispose the process fluid on environment as this can cause pollution or personal injury.

Warranty

See Standard Conditions of Sale.

Replacement Parts

Only the microswitch and terminals can be replaced. Use factory authorised parts only.

Decommissioning

Warning: Verify that the loop is in a safe configuration before acting on the bulb and instrument. Power off the instrument.

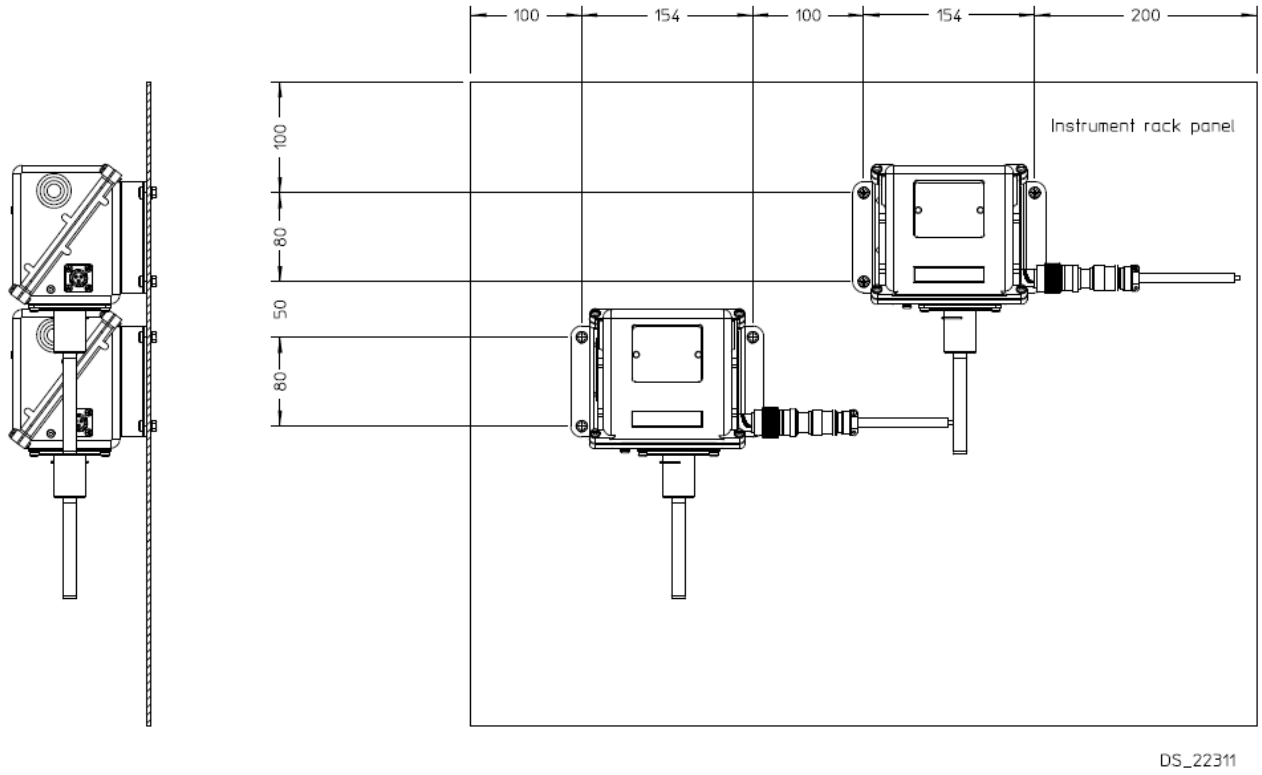
Warning the bulb can be hot!

- Remove the bulb from the thermowell.
- Remove the lid.
- Disconnect all the live terminals and insulate the cables.
- Disconnect the earthing/grounding.
- Remove the cable gland.
- Dismount the instrument from the process connection. .
- Plug the thermowell.
- Reassemble the lid.
- Remove the mounting screws to the wall/panel.

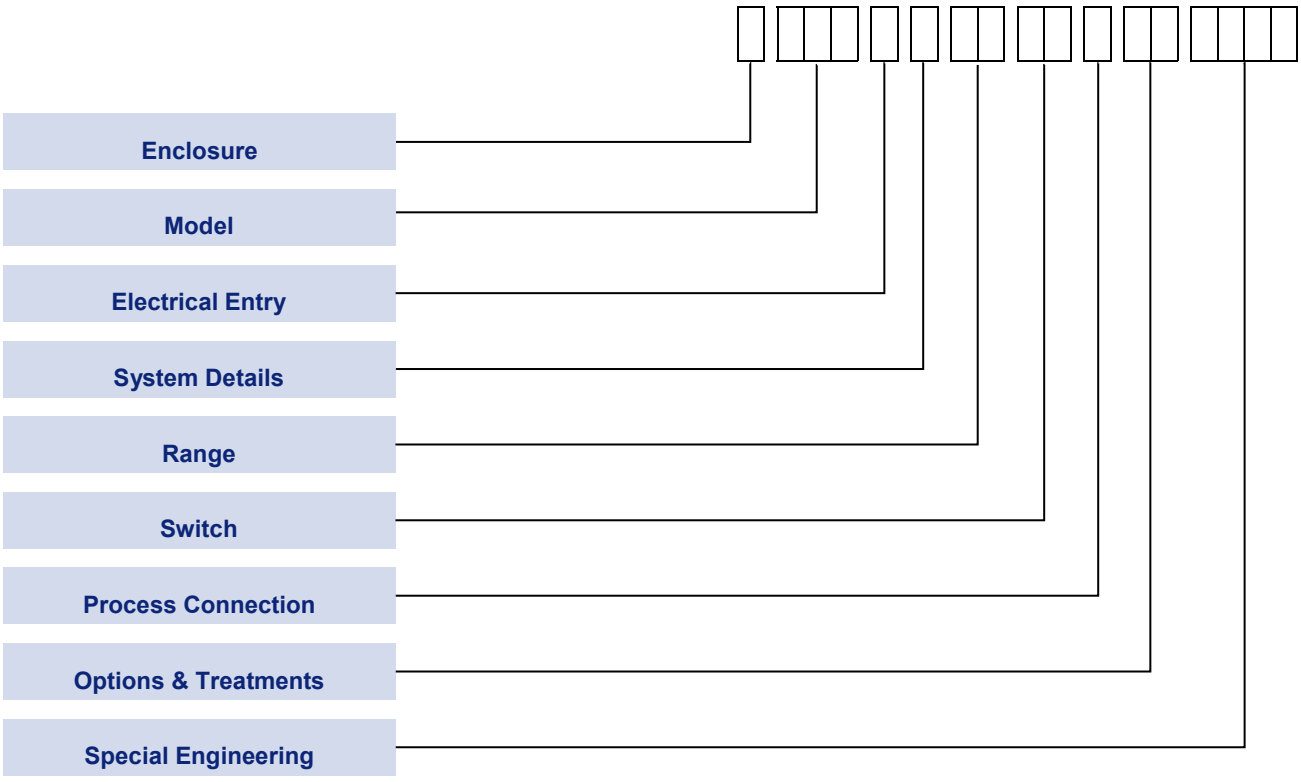
Disposal

The instrument is mainly made of stainless steel. Remove the microswitch before scrapping the instrument.

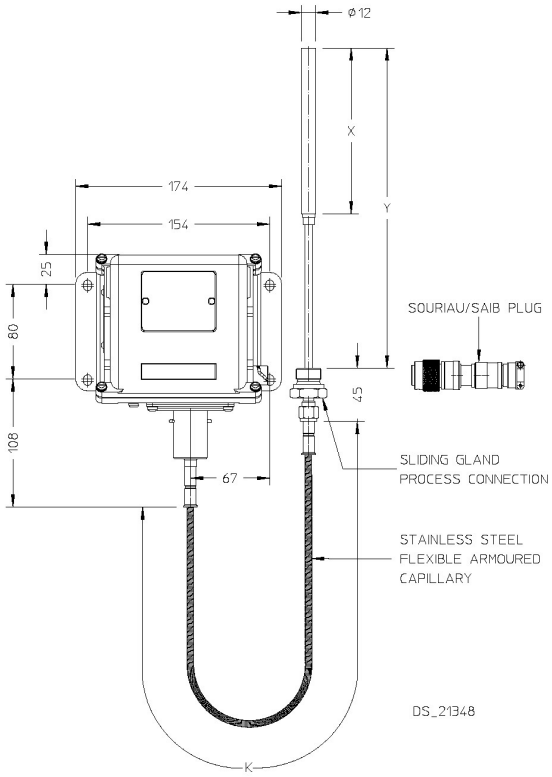
FIG 6—Rack Mounted instrument



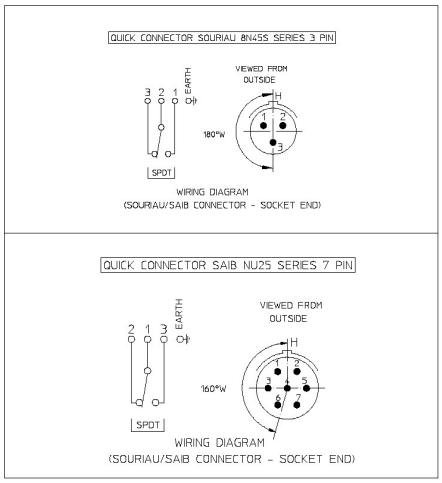
Model Code

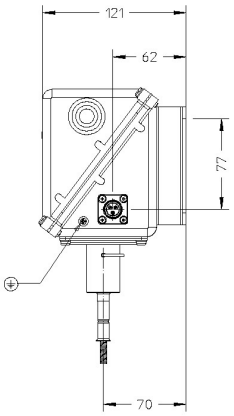


Dimensional drawing: A Enclosure with Souriau/SAIB electrical entry



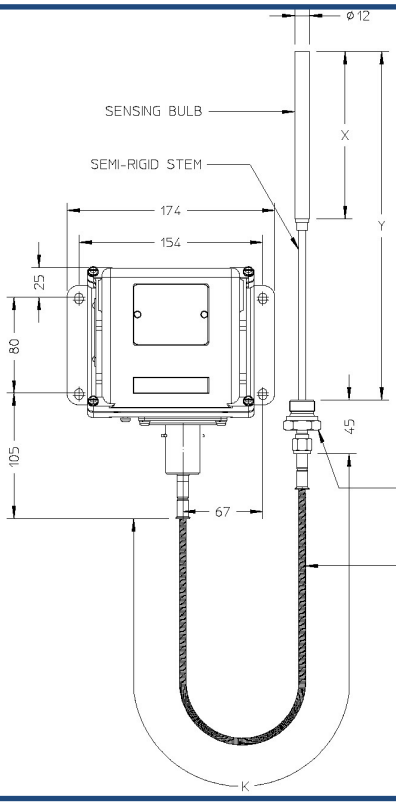
Code		E	F	G	H
Immersion Length, Y max	mm	330	580	330	580
	inch	13	23	13	23
Immersion Length, Y min	mm	125	125	125	125
	inch	5	5	5	5
Capillary Length, K	m	3	3	6	6
	ft	10	10	20	20
Active Length, X SAMA IIC, IIA	mm	80	80	80	80
	inch	3	3	3	3
Active Length, X SAMA IIIB	mm	90	90	90	90
	inch	3.5	3.5	3.5	3.5



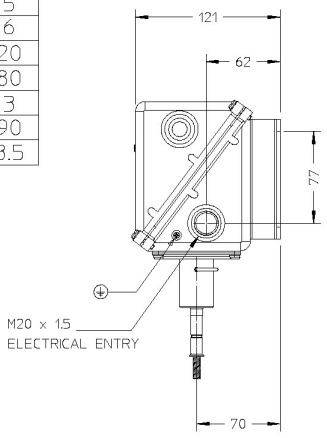


NOTES:
RECOMENDED SCREWS FOR
INSTALLATION ARE M6 GRADE 8.8

Dimensional drawing: A Enclosure with M20x1.5 electrical entry

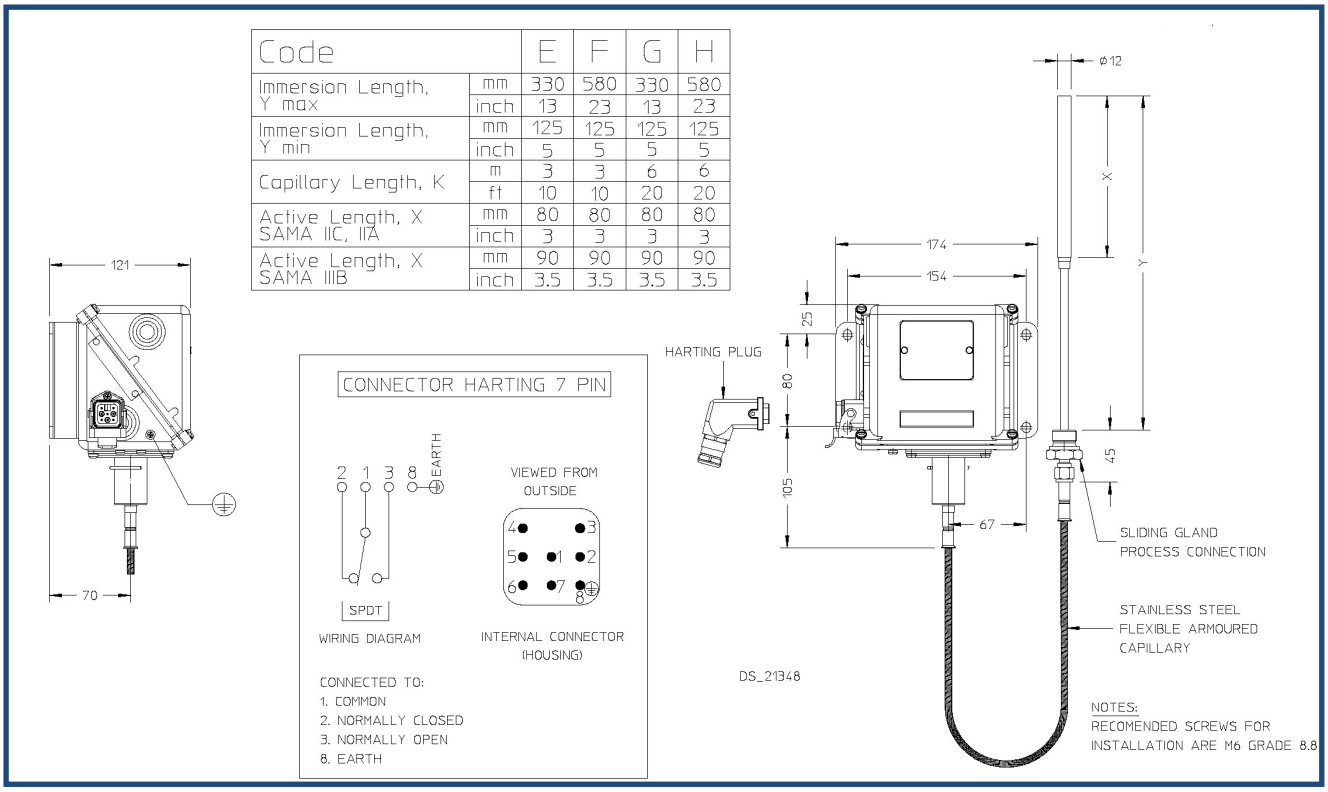


Code		E	F	G	H
Immersion Length, Y max	mm	330	580	330	580
	inch	13	23	13	23
Immersion Length, Y min	mm	125	125	125	125
	inch	5	5	5	5
Capillary Length, K	m	3	3	6	6
	ft	10	10	20	20
Active Length, X SAMA IIC, IIA	mm	80	80	80	80
	inch	3	3	3	3
Active Length, X SAMA IIIB	mm	90	90	90	90
	inch	3.5	3.5	3.5	3.5

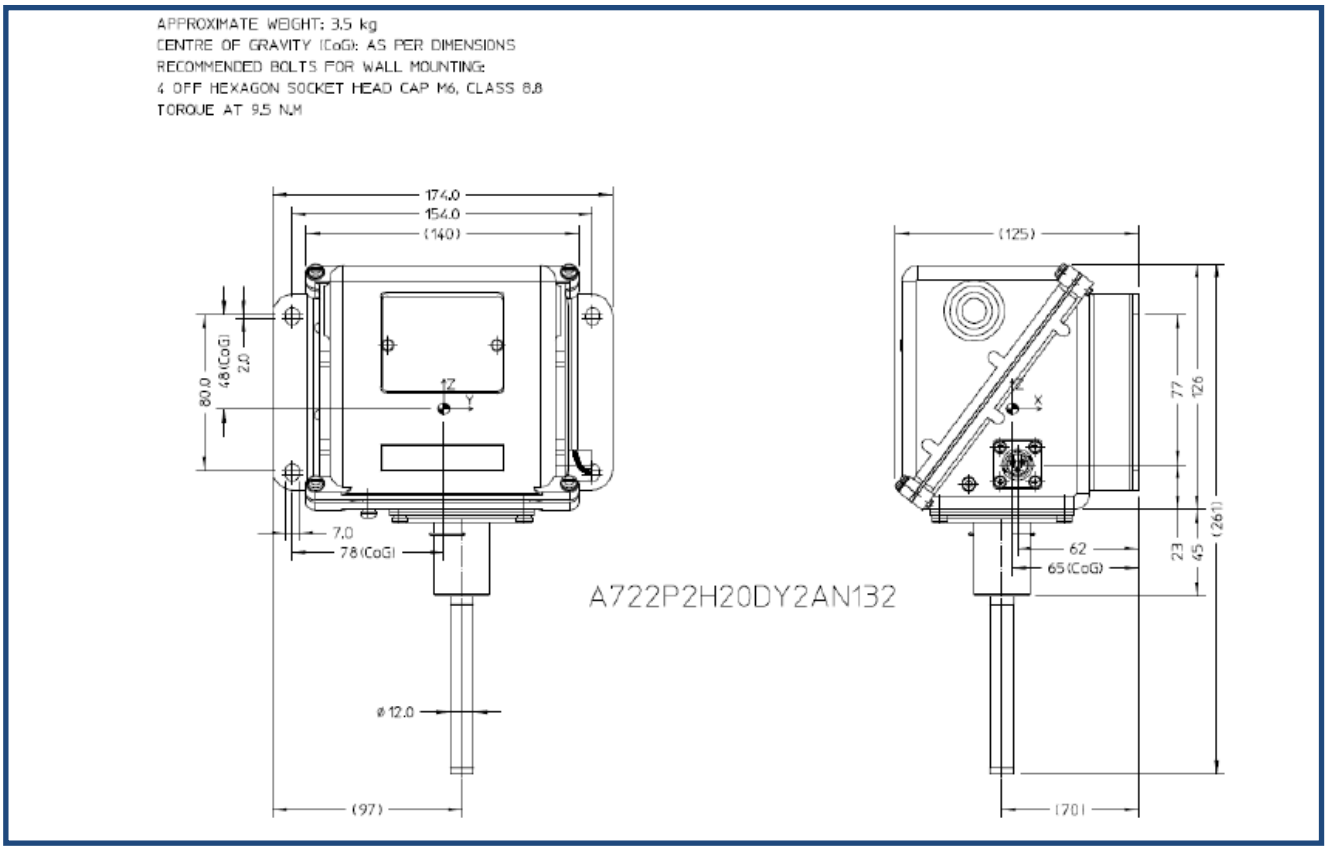


NOTES:
RECOMENDED SCREWS FOR
INSTALLATION ARE M6 GRADE 8.8

Dimensional drawing: A Enclosure with Harting electrical entry



Dimensional drawing: A Enclosure with Souriau/SAIB electrical entry and sensor suitable for room temperature control



ANNEX 1 - Harting HAN 7D wiring instruction

Harting connector (See dimensional drawings)

The unit is supplied pre-wired to fixed housing half of a 'Harting' connector. Also supplied is the removable female (hood) which requires wiring at the installation, and female contacts for crimping to the installation cable (see crimping operating instructions).

Remove pins from insert using **tool no. 09 99 000 0012**. Prepare the cable ends and crimp female contacts to wires using the appropriate tool. Push contacts into the insert. If contacts do not click home then use **tool 09 99 000 0059** to complete operation. Push the insert back into the hood and replace the retaining screw.

A gland assembly is pre assembled to the hood via a **Pg 13.5/11 reducer**. The gland is designed to accept braided cable which ensures the metal gland body can be earthed and screened at the cable termination. The **earth/ground pin no.8** is earthed/grounded to the main enclosure.
The fixed half of the connector (housing) is also earthed/grounded to the main enclosure via one of the fixing screws.
The removable half of the connector (hood) and metal gland is not permanently earth bonded to the connector (housing) other than incidental earth bonding through the retaining clip when assembled.

The installer must ensure that the removable half of the connector (hood) is permanently at earth/ground potential after installation. This may require additional local earth bonding which is the responsibility of the installer.

Remove the gland, viton bush and saddle clamp assembly. Remove the female insert from the hood by unscrewing the retaining screw.

Preparing braided cable:

1. Strip back the outer sheath, with a suitable stripping tool, as far as is required.
2. Trim braid to within 4-8mm of outer sheath depending on size of cable.
3. Fit brass cap and rubber bush over outer sheath.
4. Push brass hat up between inner sheath and braid.
5. Fit cap to main body, making sure the metal washer is included between the hat and the main body and tighten.
6. Tighten the saddle clamp.

Crimping tool operating instructions for turned contacts:
Crimping tool 0.14 - 2.5 mm² 09 99 000 0110
Locator for contacts for wire gauge 0.14 - 1.5 mm²
Han D, R 1509 99 000 0111

Catch

The crimping tool is fitted with a safety catch to ensure that all contacts are crimped to a constant quality.

- It prevents the tool from closing until the jaws of the crimping tool have been fully opened.
- It prevents the jaws from being re-opened until the jaws of the crimping tool have been completely closed.

Early release

It is possible to effect an early release of the safety device with a screwdriver if the crimp is faulty.
The safety device is released by turning anti-clockwise (in the direction of the arrow).
The load must be taken off the jaws by applying slight pressure to the handle. Damage to the crimping die will thus be prevented if the contact does not lie correctly in the profile.

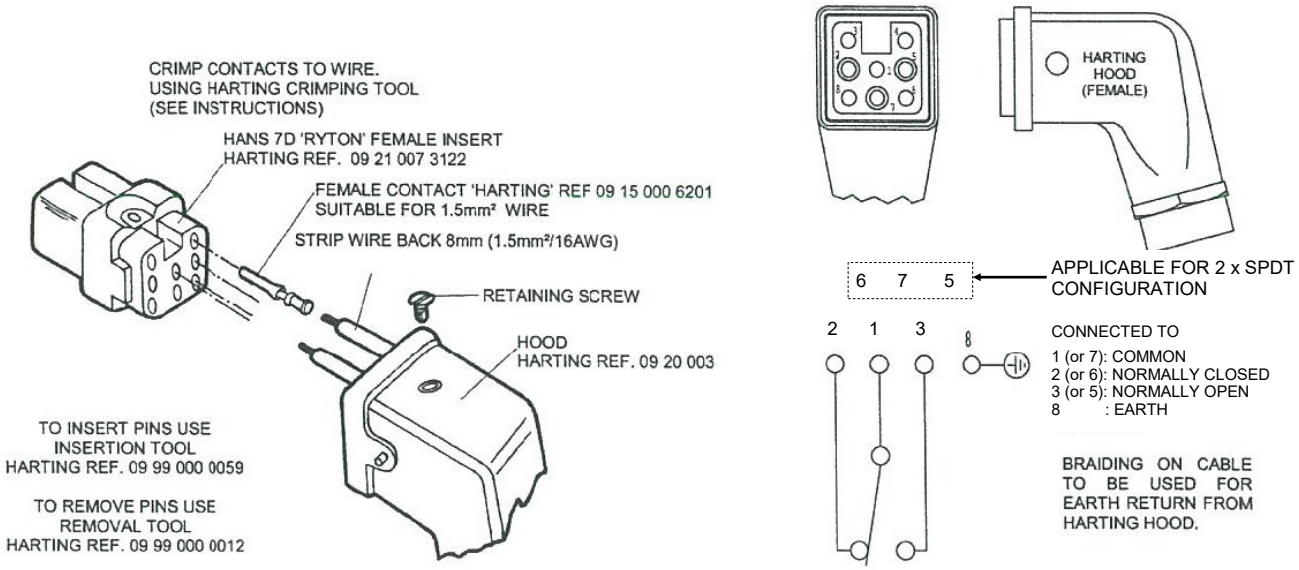
DO NOT USE FORCE TO OPEN AND SHUT THE TOOL

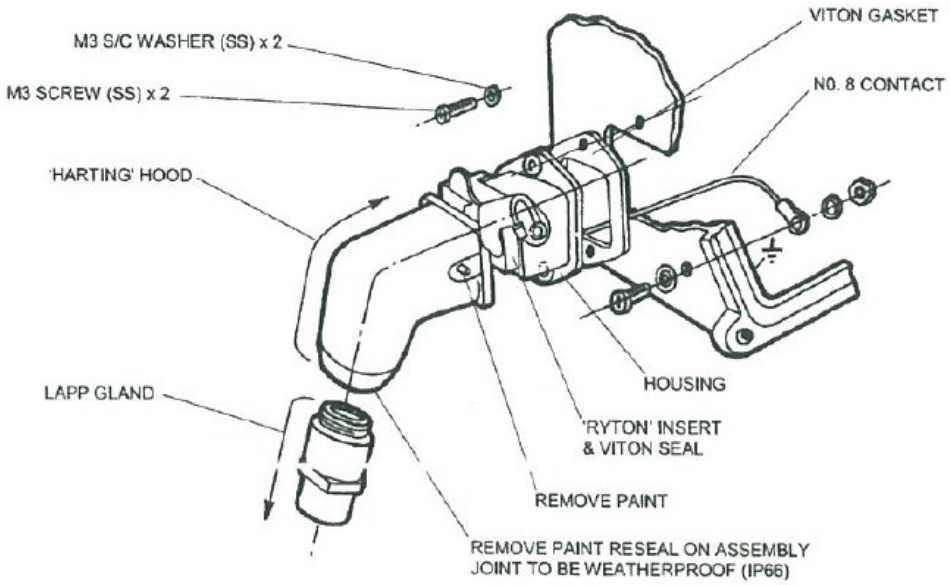
Fastening the locator

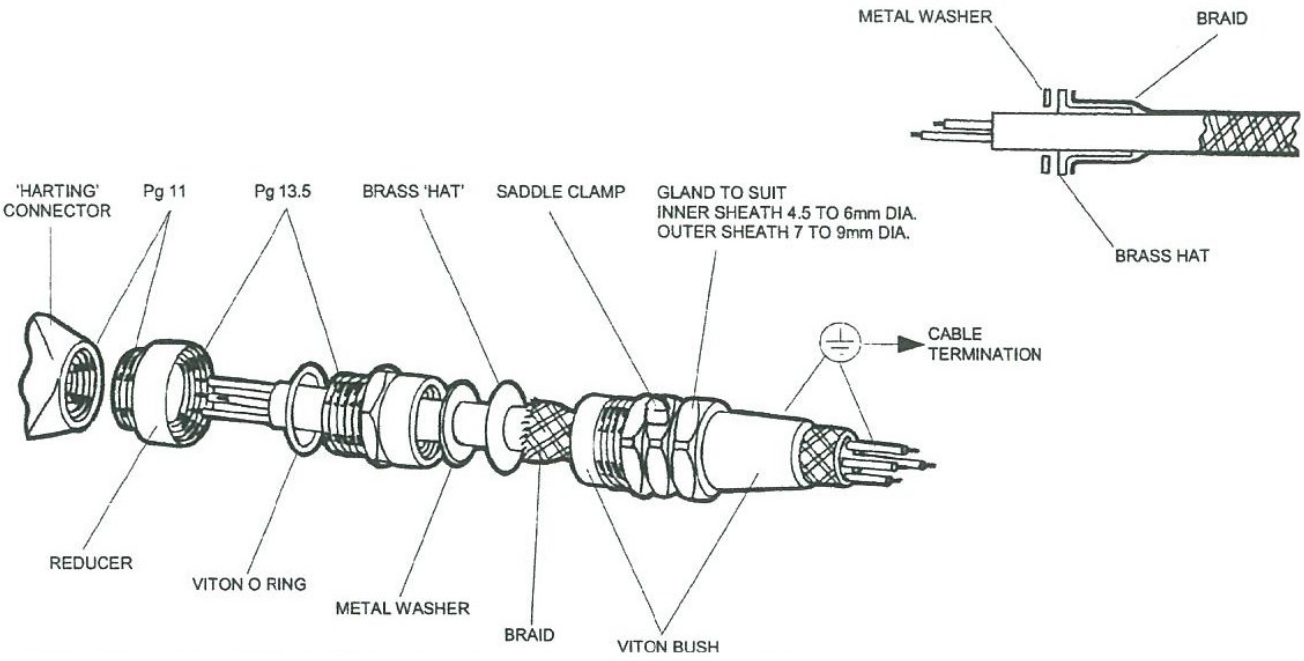
Locators for the turned contacts are screwed onto the non-moving part of the tool.

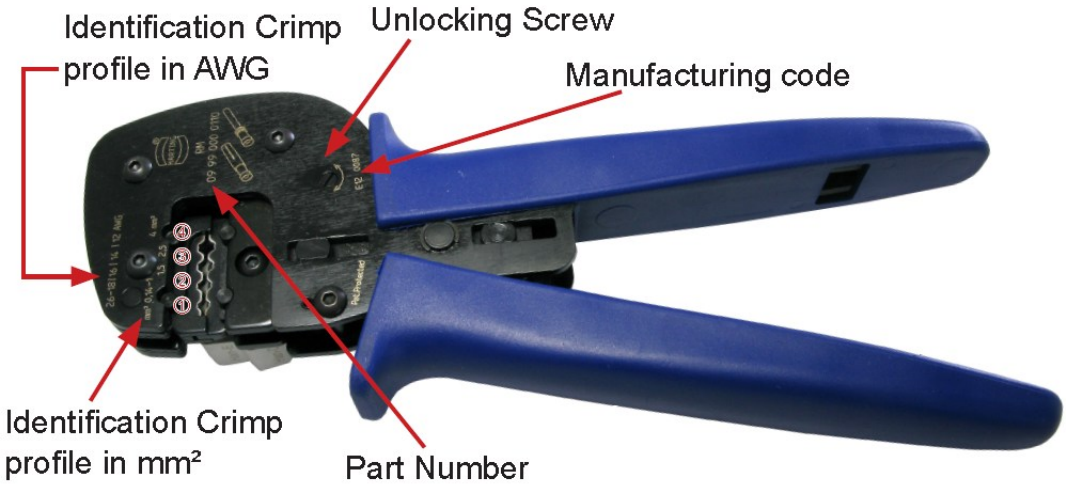
Crimping process

- Insert the contact into the locator.
- Lock the contact between the slightly closed jaws of the crimping tool.
- Insert the stripped stranded wire into the contact.
- Crimp until the jaws re-open.


CRIMP CONTACTS TO WIRE.
USING HARTING CRIMPING TOOL
(SEE INSTRUCTIONS)
HANS 7D 'RYTON' FEMALE INSERT
HARTING REF. 09 21 007 3122
FEMALE CONTACT 'HARTING' REF 09 15 000 6201
SUITABLE FOR 1.5mm² WIRE
STRIP WIRE BACK 8mm (1.5mm²/16AWG)
RETAINING SCREW
HOOD
HARTING REF. 09 20 003
TO INSERT PINS USE
INSERTION TOOL
HARTING REF. 09 99 000 0059
TO REMOVE PINS USE
REMOVAL TOOL
HARTING REF. 09 99 000 0012
HARTING
HOOD
(FEMALE)
6 7 5
APPLICABLE FOR 2 x SPDT
CONFIGURATION
2 1 3
8
CONNECTED TO
1 (or 7): COMMON
2 (or 6): NORMALLY CLOSED
3 (or 5): NORMALLY OPEN
8 : EARTH
BRAIDING ON CABLE
TO BE USED FOR
EARTH RETURN FROM
HARTING HOOD.


M3 S/C WASHER (SS) x 2
M3 SCREW (SS) x 2
'HARTING' HOOD
LAPP GLAND
VITON GASKET
N0. 8 CONTACT
HOUSING
'RYTON' INSERT
& VITON SEAL
REMOVE PAINT
REMOVE PAINT RESEAL ON ASSEMBLY
JOINT TO BE WEATHERPROOF (IP66)


METAL WASHER
BRAID
BRASS HAT
'HARTING'
CONNECTOR
Pg 11
Pg 13.5
BRASS 'HAT'
SADDLE CLAMP
GLAND TO SUIT
INNER SHEATH 4.5 TO 6mm DIA.
OUTER SHEATH 7 TO 9mm DIA.
CABLE
TERMINATION
REDUCER
VITON O RING
METAL WASHER
BRAID
VITON BUSH



Crimp profiles:

①	0.14 -1 mm² (AWG 26 - 18)	Han D®, Han E®, Han-*Yellock*®
②	1.5 mm² (AWG 16)	Han D®, Han E®, Han® C, Han-*Yellock*®
③	2.5 mm² (AWG 14)	Han E®, Han® C, Han-*Yellock*®
④	4.0 mm² (AWG 12)	Han E®, Han® C, Han-*Yellock*®

ANNEX 2 - Optional SAIB and Souriau plug connector

Instruments are supplied without plug. If necessary plugs can be supplied as spare. Please refer to the table below for the correct type and code also in relation to the Model Code defined on the Technical Data Sheet. The table also shows the wiring instruction.

Electrical entry code TABLE 3 of the TDS		**Optional Plug**			
Code	**Description**	**DML Part Number**	**Description**	**Supplier Part Number**	**Wiring Instruction**
I	7 pin SAIB receptacle	3400459	SAIB K2 NU25 Size 2-7, Female Plug 7 cts with shielding continuity (washer and Raychem heat shrink tube code wcsf-300-28/8 -75N)	254-207-400-K2 + 25-44-01 + 25-39-03	DT-1055
		3400461	SAIB NC NU25 Size 2-7, Female Plug 7 cts , with shielding continuity (washer and Raychem heat shrink tube code wcsf-300-28/8 -75N)	254-207-400 + 25-44-02 + 25-39-03	DT-1055
		3400543	SAIB K2 NU25 Size 2-7, Female Plug 7 cts , with shielding continuity (washer and Raychem heat shrink tube code wcsf-300-28/8 -75N)	254-207-401-K2 + 25-44-01	DT-1056
		3400545	SAIB NC NU25 Size 2-7, Female Plug 7 cts , with shielding continuity (washer and Raychem heat shrink tube code wcsf-300-28/8 -75N)	254-207-401 + 25-44-02	DT-1056
P	3 pin SAIB receptacle	3400460	SAIB K2 NU25 Size 1-3, Female Plug 3 cts, with shielding continuity (washer and Raychem heat shrink tube code wcsf-200-18/5 -75N-CS411)	254-103-400-K2 + 25-44-00 +25-39-02	DT-1055
		3400462	SAIB NC NU25 Size 1-3, Female Plug 3 cts, with shielding continuity (washer and Raychem heat shrink tube code wcsf-200-18/5 -75N-CS411)	254-103-400 + 25-44-02 + 25 -39-02	DT-1055
		3400472	SAIB K2 NU25 Size 1-3, Female Plug 3 cts, without shielding continuity, cable gland (Raychem heat shrink tube code wcsf-200-18/5-75N-CS411)	254-103-401 K2 + 25-44-00	DT-1056
		3400465	SAIB NC NU25 Size 1-3, Female Plug 3 cts, without shielding continuity (washer and Raychem heat shrink tube)	254-103-401 + 25-44-02	DT-1056
Y	7 pin SOURIAU receptacle	3400353	Souriau 8N45S, Female Plug 7 cts, K2 Mild environment	8N45S218571K2	NUC-8N45S-0008
		3400269	Souriau 8N45S, Female Plug 7 cts	8N45S218572	NUC-8N45S-0008
Z	3 pin SOURIAU receptacle	3400367	Souriau 8N45S, Female Plug 3 cts, K2 Mild environment	8N45S118532K2	NUC-8N45S-0008
		3400365	Souriau 8N45S, Female Plug 3 cts	8N45S118532	NUC-8N45S-0008