

## ELECTRIC DEADMAN HANDSWITCH

- ◆ **COMPACT AND LIGHTWEIGHT**
- ◆ **ROBUST HEAVY DUTY DESIGN**
- ◆ **TOTALLY SEALED**
- ◆ **EFFECTIVE CABLE STRAIN RELIEF**



### Introduction.

Intrinsically safe electric control of a pneumatically operated valve is now the most widely used method of controlling aircraft refuelling from either bowzers, hydrant dispensers, or fixed systems. This method is also increasingly used to control tanker loading and offloading operations. Simply holding the handswitch allows the operation to commence and continue, while releasing the handswitch invokes the 'deadman' principle and will close down the operation, terminating flow. Because the handswitch is the point of control, it must be reliable, and yet sufficiently robust to survive the most arduous operating conditions. A failure could have catastrophic consequences.

### The Handswitch.

Aljac Fuelling Components offers you a lightweight Polypropylene handswitch which is comfortable for the operator to hold for long periods, and yet robust enough to survive in the hostile operating environment.

The handswitch is based on a magnetic reed switch housed in a hermetically sealed glass phial which in turn is encapsulated inside an easily removeable element. The body of the handswitch is fully sealed against water, fuel, dirt or dust ingress to IP67 standard and has an integral cable strain relief feature WHICH WORKS. The cable

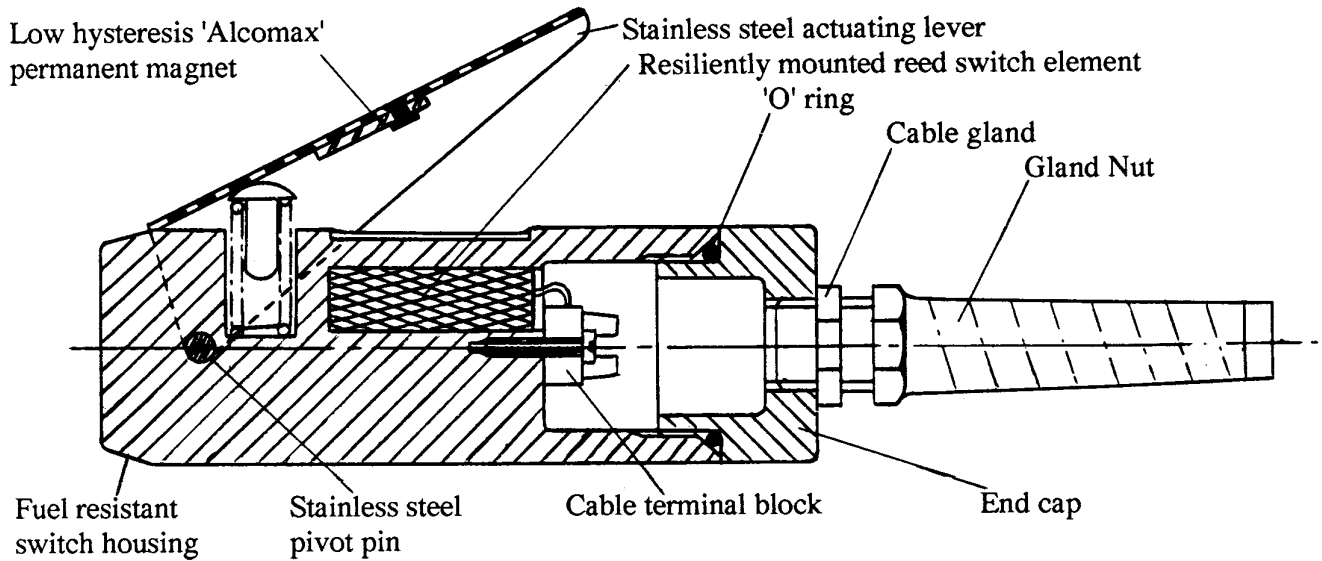
will not pull out of the switch if it is fitted correctly, as shown overleaf. The reed switch is operated by a positively retained permanent magnet fitted to a Stainless Steel trigger, which is secured to the main switch body by a Stainless Steel pin.

Cable termination is inside the body and uses a two way screwed terminal block, and we can supply the handswitch either with or without cable fitted. The free end of the cable can be terminated in your own junction box or with a weatherproof Niphan 2 pin Plug and Socket. A full range of operating spares is also available from stock.

### How To Order.

Simply Quote the following part numbers.  
Electric Deadman Handswitch, no cable. Part Number 0100400010.  
Coiled Suzie Cable (approx. 5m metres fully extended). Part Number 0100400103.  
Coiled Suzie Cable (approx. 14m metres fully extended). Part Number 0100400100.  
Coiled Suzie Cable (approx. 22m metres fully extended). Part Number 0100400102.  
Niphan Plug with Strain Relief Gland. Part Number 0100400311.  
Mating Niphan 2 Pin Flanged Socket. Part Number 0100400320.

## Sectional Drawing.

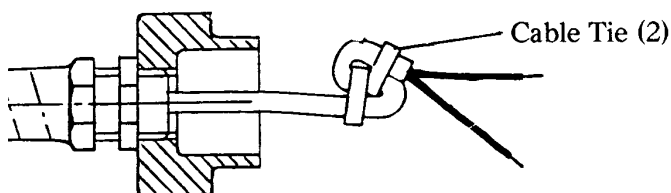


## Cable Installation.

1. Unscrew the End Cap and pass the cable through the Gland/End Cap, do not tighten the Gland Nut yet.
2. Cut the cable sheath back by approximately 40 mm and bare the ends for connection to the Terminal Block. Use 2 off cable ties to double knot the cable as shown below.
3. Carefully unscrew the Terminal Block and withdraw the Reed Switch element from the Housing.
4. Connect the cable to the Terminal Block and replace the Reed Switch Element and Terminal Block into the Housing. Tighten the Fixing Screw.
5. Make sure the Gland Nut is fully loose. While preventing the cable rotating relative to the Housing, tighten the End Cap sufficient to prevent it being unscrewed by hand.
6. Tighten the Gland Nut and check the Deadman Handswitch for correct operation.

**Note. For dismantling always loosen the Gland Nut FULLY before unscrewing the End Cap so that the cable does not rotate relative to the Housing.**

## Cable Strain Relief Method.



## Detailed Specification.

Nett Weight: 250g (Deadman Handswitch only).  
Contacts: Normally open, 15A rated.  
Switching Current: 0.5A max (AC or DC).  
Switching Voltage: 200V DC or 125V AC max.  
Switching element hermetically sealed and potted, so no approvals are required for use as an intrinsically safe switch .  
Cable Gland: To suit cable 5-10 mm diameter.

**WARNING. This Switch is for use in intrinsically safe current limited circuits only. If it is installed or tested in higher Voltage or Current applications the Reed Switch contacts will be welded together and warranty claims will not be accepted.**

# DEADMAN CABLES AND SPARE PARTS

## Deadman Cable Specification.

Twin 0.75 sq mm 24 x 0.2 stranded copper conductors, black/red PVC covered, with internal fillers and identifiers, Orange PU covered to 6mm outside diameter. Working temperature range minus 20 degC to plus 70degC.

## **Deadman Suzie Spiral Cable, 5 metres.**

1.1m closed length with 200mm straight tails, approximately 5 metres fully extended, 23mm coil outside diameter.

Part no. 0100400103

## **Deadman Suzie Spiral Cable, 14 metres.**

2.5m closed length with 200mm straight tails, approximately 14 metres fully extended, 23mm coil outside diameter.

Part no. 0100400100

## **Deadman Suzie Spiral Cable, 22 metres.**

4.7m closed length with 200mm straight tails, approximately 22 metres fully extended, 23mm coil outside diameter.

Part no. 0100400102

**NOTE. THIS CABLE HAS A HEAT SHRINK SLEEVE FITTED BUT THE CABLE IS CONTINUOUS, THERE IS NO JOIN.**

## **Deadman Cable, Straight (Not Coiled).**

Part no. 0100400101. Sold per metre length.

## Niphan Plugs and Sockets.

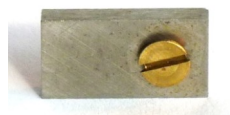
Industrial metal cased plugs and sockets, bright Zinc plated Brass, weatherproof to IP66.

**Niphan plug + strain relief gland (highly recommended).** Part no. 0100400311

**Niphan 2 pin flanged socket.** Part no. 0100400320



## Electric Deadman Handswitch Spare Parts .



Magnet set,  
Part no. 0100400012



Spring,  
Part no. 0100400015



Plastic button,  
Part no. 0100400014



Reed Switch,  
Part no. 0100400011

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