

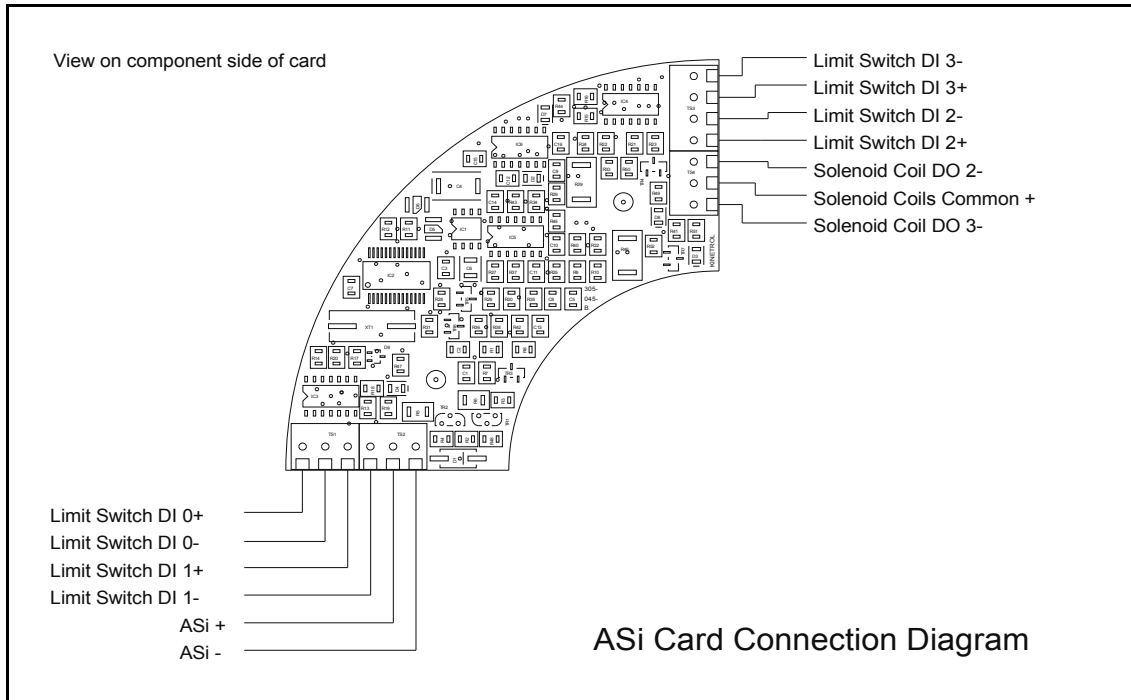


Operating Instructions for Asi Card for Kinetrol Limit Switch Box

Introduction

The Kinetrol ASi card is a standard ASi slave for mounting inside a standard Kinetrol universal limit switch box, which in turn can be mounted on a Kinetrol quarter turn pneumatic actuator, or on any supplier's actuator. The card can read up to four standard limit switches, or proximity switches, and drive up to two 24v 3 Watt solenoid coils. It appears as an ASi V2.1 standard four input / two output slave in the ASi network.

The ASi card layout and the terminals for the ASi bus, and for each input and output on the ASi Card, are shown on the Connection Diagram below.



Installation

Installation is extremely simple and is completed in the following sequence:

Important note:

Before applying air to actuator ensure switch strikers are set such that they cannot interfere with 4 way terminal block.

1. Connect the two wires of the ASi bus, ASi(+) and ASi(-), to their terminals in the limit switch box, or to the external ASi clamp connector.
2. Configure the slave unit in the ASi network. The ASi master will automatically detect the new unit on the bus, and will show the unit as a standard four input / two output slave at address zero. The unit is supplied with the address set to zero for this purpose. The unit is configured by setting the address to any value between 1 and 31, B addresses are not allowed, unless an Option with Extended Addressing enabled has been supplied. With the address set the unit can be accessed by the system.

(KF-439)

Issue E	NKS 16/05/13	KINETROL	Trading Estate Farnham Surrey England	Doc.No. TD 136
				Page 1 of 3



Input Data Bits

The four inputs are designed to read both mechanical limit switches and 2-wire 8v DC proximity switches – up to four in total of either type.

Limit switch option: The four input data bits DI 1 to DI 3 show the state of the limit switches connected to the ASi card input terminals.

An open contact shows as 0, and a closed contact shows as 1.

Proximity switch option: The four input data bits DI 1 to DI 3 show the state of the proximity switches connected to the ASi card input terminals. A low current through the proximity switch shows as 0, and a high current as 1. The sensors supplied by Kinetro pass a high current normally, and a low current when a metal striker is adjacent to the switch.

Output Data Bits

The two output data bits DO 2 and DO 3 energise their solenoid coil when the output is set to 1, and de-energise the solenoid coil when the output is reset to zero. The ASi card powers up with the solenoids de-energised. The ASi card is hardwired to energise only one solenoid at once. Priority is given to DO 2, if 1 is sent to both DO 2 and DO 3 at the same time, only the DO 2 output is energised. The DO 3 output is energised only if the DO 2 output is de-energised (0 sent to DO 2 and 1 sent to DO 3).

The parameter bits are not used.

Output Drive

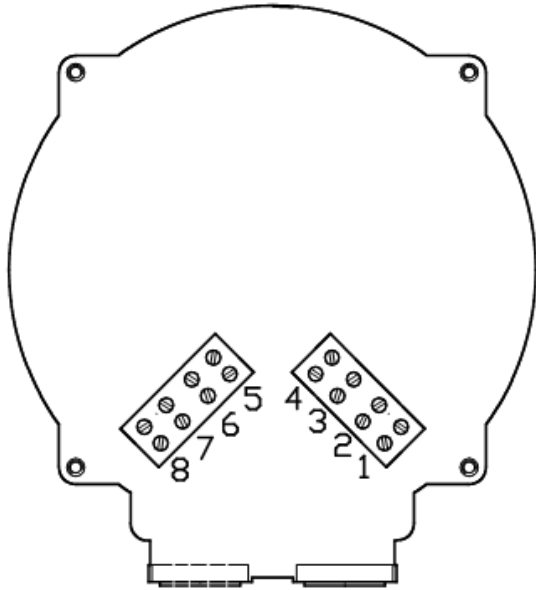
The outputs, when energised, each provide 24v dc at up to 130mA. The outputs are designed to drive the inductive loads of solenoid coils. The outputs are short circuit protected and can withstand a continuous short circuit between the solenoid coil common(+) and drive(-) lines. The output recovers automatically within 150ms of removal of the short.

External Connections

The diagram on the following page shows the identity of the terminals used for the connection options. Either the box is supplied with internal connector blocks for use with conduited cables, or it is supplied with an M12-type threaded conduit-entry-mounted plug, usually used with a connecting cable-mounted socket which is clamped onto a yellow ribbon-type Asi bus cable. If this cable-mounted socket is supplied by Kinetro, then it should be connected to the cable as shown on the following page.



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INTERNAL CONNECTIONS

Solenoid valves:
24v DC 130 mA max.

Option 'B'

- 1 = SOLENOID 2-
- 2 = SOLENOID 2+
- 3 = SOLENOID 3-
- 4 = SOLENOID 3+
- 5 = ASi-
- 6 = ASi+
- 7 = FACTORY SET
- 8 = FACTORY SET (WHEN FITTED)

INTERNAL
ASi CONNECTION
OPTION

Option 'D'

- 1 = FACTORY SET
- 2 = SOLENOID +
- 3 = SOLENOID -
- 4 = NOT FITTED
- 5 = ASi-
- 6 = ASi+
- 7 = FACTORY SET
- 8 = NOT FITTED

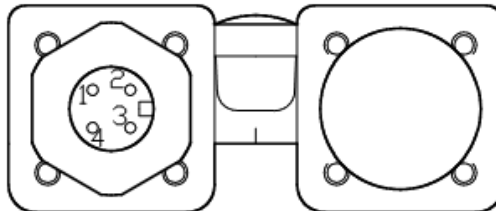
INTERNAL
ASi CONNECTION
OPTION

Option 'E'

- 1 = FACTORY SET
- 2 = SOLENOID +
- 3 = +24v SUPPLY
- 4 = SOLENOID - & 0v SUPPLY
- 5 = ASi-
- 6 = ASi+
- 7 = FACTORY SET
- 8 = NOT FITTED

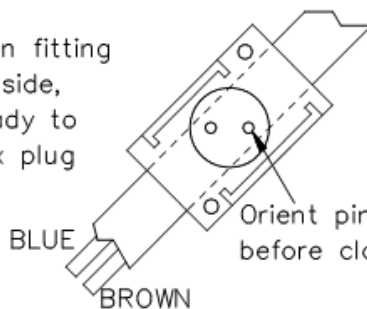
INTERNAL
ASi CONNECTION
OPTION

EXTERNAL M12
ASi CONNECTOR
OPTION



- 1 = ASi -
- 2 = NOT CONNECTED
- 3 = ASi +
- 4 = NOT CONNECTED

View of open fitting
from cable side,
oriented ready to
fit onto box plug



OPTIONAL M12
CABLE SOCKET

Orient pins like this
before clamping cable

Issue
E

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16-05-13

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Doc.No. TD 136

Page 3 of 3