EATON | Cutler-Hammer IT INTELLIGENT TECHNOLOGIES

D77B-HOA8 Hand Off Auto Adapter for SNAP Products

D77B-HOA8 Installation

The D77B-HOA8 is designed to be used in industrial applications and installed in accordance with this document. The D77B-HOA8 is intended for use in clean, dry environments.

Mount the D77B-HOA8 to the Starter

Loosen the screws on the removable terminal block of the starter and insert the "fingers" of the D77B-HOA8 into the removable terminal block. Tighten the screws on the terminal block (4.5 in-lb or 0.5 Nm) securing the D77B-HOA8 to the starter removable terminal block. If the terminal block was removed from the starter to install the D77B-HOA8, reinstall the removable terminal block and D77B-HOA8 back to the starter.

Insert one end of the SNAP Jumper (D77B-RJJ1) into J1 on the D77B-HOA8 and the other end to the SNAP product J1.

Wiring the D77B-HOA8

There are eight terminals on the front of the D77B-HOA8, they are:
- Power Negative (-)
- Power Positive (+)
- Auto (A) – Auto = 1 / Hand = 0
- Forward (F) – When in Hand, F = Forward / Run
- Reverse (R) – When in Hand, R = Reverse
- Remote Reset (1) – Remote reset always active (hand or auto)
- Source (V) – Source power for A, F, R and 1
- Alarm Out (3) – Indication of starter trip (OL, Phase Loss, Phase Imbalance)

Note: 24V DC needs to be wired to the D77B-HOA8 to power the Motor Controller. Size the power supply in accordance with the Motor Controller manual.

Connect the IT Starter/Soft Starter power supply to terminals (-) and (+), the wiring for the HOA will connect to A, F, R,1, and V. An E-Stop circuit should be wired through the (+) terminal when used.

There are many ways to wire the HOA, in all cases the control will be two-wire mode unless auxiliary contacts are used to perform 3 wire control. One can use PLC outputs (solid state or relay), switches or operators (push buttons) to activate the input devices. For your convenience non-isolated source power is provided at the V terminal for all the inputs. The total power available is less then 50 mA and is not intended to be used to power external pilots or actuators. **Damage of the device can occur if the preceding wiring guidelines are not followed**.

Refer to the **Wiring Schematic** section for aid in wiring the D77B-HOA8.

LED Indication

There is an LED on the D77B-HOA8, this LED is multi function to alert the user to the mode of operation.
LED = Solid On = HAND Mode
LED = Mostly On (blinking) = AUTO Mode
LED = Rapid Flash (fast blink) = HOA8 Communication Error
LED = Off = E-Stop/No Power

D77B-HOA8 Alarm Output

The D77B-HOA8 has a single current sourcing alarm output for indication of starter trip including thermal overload, phase imbalance, phase loss and test trip; any annunciating device must be wired between the 3 terminal and the (-) terminal**.** The output is intended to be connected to a pilot device or PLC input, inductive loads are not recommended for use with this output. **The output is rated at 250 mA and is not current limited.**

Operation of the D77B-HOA8

When the D77B-HOA8 is operating in Auto, the starter will operate via Network control sent to the SNAP product. The F and R terminals are inactive when in Auto. When the D77B-HOA8 is in Hand, the starter is controlled from the D77B-HOA8 terminals. In Hand the F and R terminals will command the starter to operate in Run/Forward or Reverse. At all times the Remote Reset (1) terminal is active. **The D77B-HOA8 can operate the IT starter with out the SNAP product attached or powered providing a true Hands Off Auto in case of SNAP product damage or network failure.**

Status to the Industrial Network

When the D77B-HOA8 is in Hand or Auto, there will be feedback (status, current, fault codes) to the Industrial Network.

D77B-DSNAP – Control From Net bit (CtrlFromNet) will indicate the Hand/Auto status. When the Control From Net bit is true (1) the D77B-HOA8 is in Auto, when the Control From Net bit is false (0) the D77B-HOA8 is in Hand.

QCPort Devices – Local Control bit will indicate the Hand/Auto status. When the Local Control bit is true (1) the D77B-HOA8 is in Hand, when the Local Control bit is false (0) the D77B-HOA8 is in Auto.

All other data within the DSNAP or QCPort device messages stay the same and are not affected by the addition of the D77B-HOA8.

Environmental Ratings of the D77B-HAO8

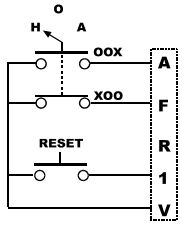
Transportation and Storage	Temperature	-50°C to 80°C [-58°F to 176°F]
	Humidity	5 – 95% non-condensing
Operating	Temperature	-25°C to 55°C [-13°F to 131°F]
	Humidity	5 – 95% non-condensing
	Altitude	Above 2000 meters [6600 feet] consult factory
	Shock IEC 68-2-27	15G any direction for 11 milliseconds
	Vibration IEC 68-2-6	5 – 150 Hz, 5G, 0.7 mm maximum peak-to-peak

Approvals/Certifications of the D77B-HAO8

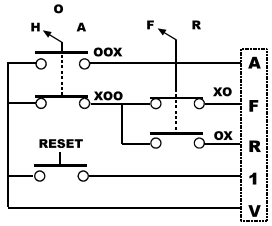
Electrical/EMC	
▪ESD Immunity (IEC61000-4-2)	+/- 8kV air, +/- 4kV contact
▪Radiated Immunity (IEC61000-4-3)	10V/m 80-1000 MHz, 80% amplitude modulation @ 1kHz
▪Fast Transient (IEC61000-4-4)	+/- 2kV supply and control +/- 1kV communications
▪Surge (IEC61000-4-5)	+/- 1kV line-to-ground +/- 2kV line-to-line
▪RF Conducted (IEC61000-4-6)	10V, 0.15 – 80MHz
▪Magnetic Field (IEC61000-4-8)	30 A/m, 50Hz
Ingress Protection Code	IP20
Radiated and Conducted Emissions	EN5011 Class A
Agency Certifications	UL 508 CUL (CSA C22.2 No. 14) CE (Low Voltage Directive)

Wiring Schematic

2-Wire Control



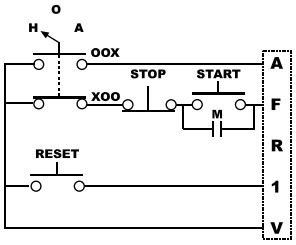
Full Voltage Non Reversing



Full Voltage Reversing

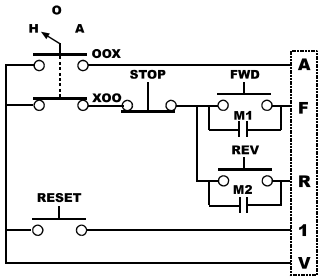
3-Wire Control

M = Aux Contact



Full Voltage Non Reversing

M1 = Aux Contact FWD
M2 = Aux Contact REV



Full Voltage Reversing