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Find the *Danaher Motion / Superior Electric SLO-SYN 230-IH* at our website: *Click HERE*

# Modular Indexer/Drives 230 and 430 Series Models

## FULL-STEP AND HALF-STEP

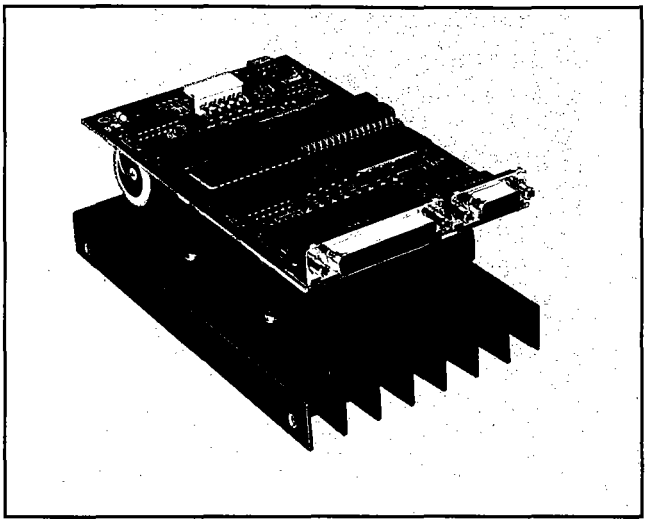
The 230-IH and 430-IH consist of low-cost, energy efficient drive modules coupled with programmable, microcontroller indexers. They can handle a broad range of motion control needs, from single, repetitive index motions up to complete 400-line programs. The Indexers use an industry standard machine tool code language for maximum flexibility and may be programmed through a parallel (switch panel) port or through an RS232 serial port from a computer, terminal, or hand-held programmer. The nonvolatile memory may be programmed, edited or manipulated through either the serial or the parallel port. Superior Electric offers a Switch Interface Panel (SSP-100) and a Hand-Held Programming Terminal (SSP-500) which may be used to store, retrieve or edit programs. An IBM® PC compatible program is also available on disk (disk #200) to aid in programming from personal computers via their RS232 ports.

The Indexers contain 16 inputs and 6 outputs. Two inputs and two outputs are programmable and may be used in conditional statements or as program sequence jumps. Two other inputs can be used as CW and CCW travel limits or can be programmable. In addition, a strobing technique allows for parallel data entry. Subroutine capability adds to programming flexibility.

Up to 99 Indexers may be daisy chained through the serial port and can be edited or controlled by the SSP-500 Hand-Held Programming Pendent or by any RS232 data source such as a personal computer (PC).

## FEATURES

- Programming is done in a simple, easy-to-use format.
- Up to 400 lines of program instructions can be stored.
- Program storage is in nonvolatile memory (EEPROM).
- Easy programming allows motion and input/output control.
- Up to 99 indexers may be daisy chained via RS232 communications.
- Program entry and execution may be done in a variety of ways:
  - Switch panel, including the Superior Electric SSP-100 Slo-Syn Indexer Programmer.
  - Remote terminal, including the Superior Electric SSP-500 Slo-Syn Indexer Programmer.
  - Host computer.
- Programmable inputs and outputs.



## CONNECTOR PIN ASSIGNMENTS

**Motor Connections**

(7-pin terminal strip)

| Pin | Assignment |
|---|---|
| 1 | Vom - INTERNAL CONNECTION-DO NOT USE |
| 2 | M1 } MOTOR PHASE A |
| 3 | M3 } |
| 4 | VM - INTERNAL CONNECTION-DO NOT USE |
| 5 | M4 } MOTOR PHASE B |
| 6 | M5 } |
| 7 | Vom - INTERNAL CONNECTION-DO NOT USE |

**Power Supply Connections**

(5-pin MTA connector)

| Pin | Assignment |
|---|---|
| 1 | + 15V |
| 2 | + 5V |
| 3 | Vo (Logic Supply Common) |
| 4 | Vm (motor supply-positive terminal) |
| 5 | Vom (common for motor supply-negative terminal) |

**Parallel Input/Output Signal Connections**

(25-pin female "D" connector)

| Pin | Assignment |
|---|---|
| 1 | Vo SIGNAL COMMON |
| 2 | D7 INPUT |
| 3 | D5 INPUT |
| 4 | D3 INPUT |
| 5 | D1 INPUT |
| 6 | MOTION BUSY * |
| 7 | STROBE 7 |
| 8 | STROBE 5 |
| 9 | STROBE 3 |



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| Pin | Assignment |
|---|---|
| 10 | STROBE 1 |
| 11 | OUTPUT 2 |
| 12 | ALL WINDINGS OFF OUT * |
| 13 | CW/CCW OUT * |
| 14 | Vo SIGNAL COMMON |
| 15 | D6 INPUT |
| 16 | D4 INPUT |
| 17 | D2 INPUT |
| 18 | D0 INPUT |
| 19 | NOT USED |
| 20 | STROBE 6 |
| 21 | STROBE 4 |
| 22 | STROBE 2 |
| 23 | STROBE 0 |
| 24 | OUTPUT 1 |
| 25 | PULSE OUTPUT * |

*See footnote on page 73.

**Note: A description of each signal is given on pages74 and 75.**

**Serial Input/Output Signal Connections**

(9-pin female "D" connector)

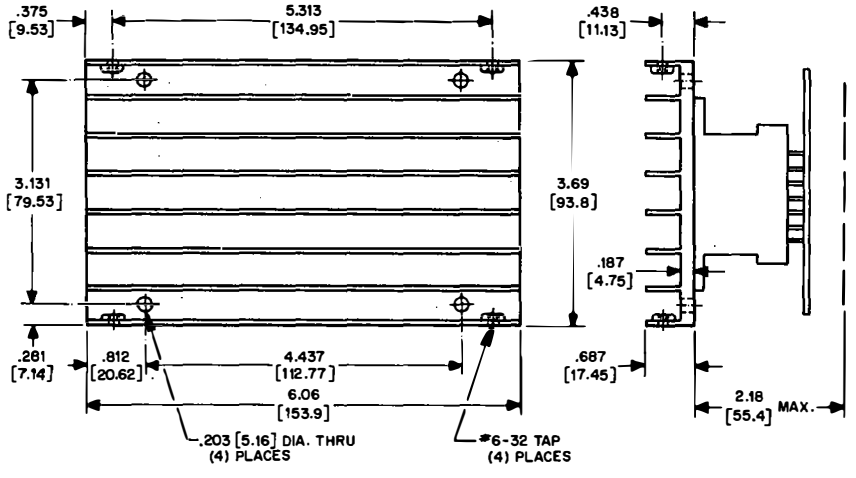
| Pin | Assignment |
|---|---|
| 1 | Vo |
| 2 | RS-232 CHAIN OUT |
| 3 | RS-232 RECEIVE DATA |
| 4 | Vo |
| 5 | Vo |
| 6 | RS-232 ECHO |
| 7 | RS-232 CHAIN IN |
| 8 | +5 VDC |
| 9 | +5 VDC |

# SPECIFICATIONS

Resolution . . . . . half-step or full-step
Step Rate . . . . . 0 to 10,000 full steps per second
Chopping Frequency . . . . . 20 kHz nominal
Drive Power Dissipation . . . . . 230-IH: 25 watts (maximum)
430-IH: 40 watts (maximum)
Motor Compatibility
Types . . . . . 4-, 6- or 8-lead M Series
230-IH . . . . . M061 through M092
430-IH . . . . . M061 through M112
Size . . . . . 6.3" L x 3.7" W x 2.75" H
(160mm L x 94mm W x 70mm H)
Weight (approximate)
230-IH . . . . . 1.5 lbs (0.68 kg)
430-IH . . . . . 2.0 lbs (0.907 kg)
Power Requirements
Indexer Logic Power Supply
Voltage . . . . . +5 VDC nominal
Range . . +4.75 VDC to +5.25 VDC without SSP-500
+5.10 VDC to +5.25 VDC with SSP-500
Current . . . . . 600 milliamperes without SSP-500
900 millamperes with SSP-500
Voltage . . . . . +15 VDC nominal
Range . . . . . +12 VDC to +16 VDC
Current . . . . . 30 millisamperes

Motor Power Supply
Voltage Range . . . . . +24 VDC to +36 VDC including ripple (+28 VDC nominal)
Current . . . . . 230-IH: 2.5 amperes
430-IH: 4.0 amperes
Ambient Temperature
Operating . . . . . 0°C to +50°C (+32°F to +122°F)
Drive Module Case (Operating) . . . . . 0°C to +75°C (+32°F to +167°F)
Storage . . . . . –40°C to +75°C (–40°F to 167°F)
Humidity . . . . . 95% max., noncondensing
Altitude . . . . . 10,000 feet (3048 meters) max.

# DIMENSIONS




**230-IH, 430-IH**



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