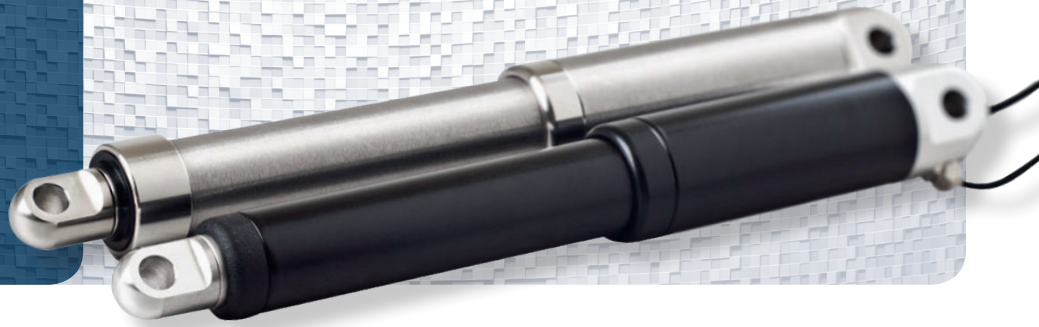# icon

Linear In-line Actuator

concens

Intelligent actuators with integrated controller (icon) enable the use of MODBUS RTU on an RS485 serial communication. One of the industry's most powerful standards.

The icon options provide everything from easy maintenance, control and installation, to a wide range of customizable settings and feedback that will help tailor the movement solution to your specific needs and application.

Standard Specifications

Temperature	■ Operation: - 20 ˚C to + 70 ˚C ■ Storage: - 40 ˚C to + 70 ˚C
Cable specification	Ø4,8 mm cable for icon35 (2 x AWG22 + 6 x AWG28), also available for HE version
	Ø6,8 mm cable for icon35/50/60 (2 x AWG16 + 6 x AWG26), also available for HE version
Bending Radius	6 x cable diameter

Cable length for icon with 12 VDC motor is limited to 5 m, 24 VDC motor is limited to 9 m. The IP classification covers the actuator including cable and cable gland. Connector (if mounted) or open ends are not part of the certification

For other mechanical data please refer to Concens standard con35/50/60 datasheet.

Configurations

icon configurations	**SDB** Single Actuator Direction Control Basic IO	**SDH** Single Actuator Direction Control Hall Output	**SDP** Single Actuator Direction Control Position Output	**SPP** Single Actuator Position Control Position Output	**SBS** Single Actuator BUS Control Status/Control IO	**MDO** Multiple Actuators Direction Control Override
Configuration letter	A	B	C	D	E	F
Voltage 12/24 VDC	✓	✓	✓	✓	✓	✓
Direction in/out	✓	✓	✓	-	-	✓
5/10 VDC ref. output	-	-	-	✓	-	-
Stop input	-	-	-	-	✓	-
Override input	-	-	-	-	-	✓
Error output	-	-	-	-	✓	-
Analog position input	-	-	-	✓	-	-
Analog position output	-	-	✓	-	-	-
Stop input/Pos. OK output	-	-	-	✓	-	-
Hall Output	-	✓	-	-	-	-

Features

- Adjustable start/stop ramp
- Adjustable current limit
- Industrial interface MODBUS RTU on RS485
- Internal stroke limitation
- Internal temperature protection
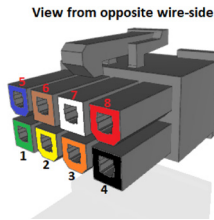- Plug & Play solution with conXion box, Box+ and conXion DIN.

Dimensions

Same BID (Build in Dimension) as con35/50/60 with Hall. Please see original datasheet for con35/50/60

Use of 'safe zone' will inevitably decrease the usable part of the stroke length of the actuator.

Contact Concens for any special requirements

Electrical Wiring

View from opposite wire-side

Configuration	SDB	SDH	SDP	SPP	SBS	MDO
Key letter	A	B	C	D	E	F
Color						
Yellow (2)	RS485 TX +A	RS485 TX +A	RS485 TX +A	RS485 TX +A	RS485 TX +A	RS485 TX +A
Green (1)	RS485 RX -B	RS485 RX -B	RS485 RX -B	RS485 RX -B	RS485 RX -B	RS485 RX -B
Orange (3)	GND Signal	Hall B output	GND Signal	GND Signal	GND Signal	GND Signal
Black (4)	GND Power	GND Power	GND Power	GND Power	GND Power	GND Power
White (7)	Not used	Hall A output	Position output	5-10 V reference	Not used	Override
Brown (6)	Dir. IN	Dir. IN	Dir. IN	Pos ok/stop input	Error out	Dir. IN
Blue (5)	Dir. OUT	Dir. OUT	Dir. OUT	Position input	Stop input	Dir. OUT
Red (8)	Power 12/24 V	Power 12/24 V	Power 12/24 V	Power 12/24 V	Power 12/24 V	Power 12/24 V

Numbers refers to the 8-pin Molex Minifit plug, not screw terminal on conXion DIN.

Electrical Data

Max. Current load: *icon35:* 24 VDC permanent magnet motor (max. current is 1.8 A, absolute max. voltage is 28 VDC)
12 VDC permanent magnet motor (max. current is 3.6 A, absolute max. voltage is 14 VDC)
icon50: 24 VDC permanent magnet motor (max. current for ratio 4-14-17-24 is 8 A, ratio 49 is 7 A, ratio 84 is 4,5 A, absolute max. voltage is 28 VDC)
12 VDC permanent magnet motor (max. current for ratio 4-14-17-24 is 16 A, ratio 49 is 14 A, ratio 84 is 9 A, absolute max. voltage is 14 VDC)
icon60: 24 VDC power supply, permanent magnet motor (max. current is 11,5 A, absolute max. voltage is 28 VDC)

Idle current: Approx 25 mADC

Current trip delay: 20 ms

PWM frequency: 25 kHz

Digital inputs: Active low

Supply voltage: 12 VDC (min 12 VDC @ full load, max 14 VDC) or
24 VDC (min 24 VDC @ full load, max 28 VDC) (max ripple < 10 % @ full load)

Serial data line: RS485 asynchronous, point to point or multi-point, 2 wire half-duplex

Communication: Modbus RTU

Baud rate: 115200 bps

Com setup: 8 Bit, Parity -None, Stop bit -1

For more information on Modbus RTU please go to www.modbus.org MODBUS over serial line specification and implementation guide V1.0

Recommendations and warnings

- Always connnect icons to a power supply that matches the nominel voltage of the icon, also during update and parameter setting.
- Most switches are active low and to be pulled down to GND (Signal GND) for activation.

Disclaimer

- Concens products are continuously developed, built and tested for highest requirements and reliability but it is always the responsibility of the customer to validate and test the suitability of our products in a given application and environment. Concens products must not be used in safety critical applications.
- We do our utmost to provide accurate and up-to-date information at all times. In spite of that, Concens cannot be held responsible for any errors in the documentation. Specifications are subject to change without prior notice.

For more information, please visit our website at www.concens.com

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