

HercuLine[®] Actuator Series 10260A Specifications *Non-Contact Position Sensing!*

62-86-03-10 August 2005



Overview

To operate with maximum efficiency and improve process uptime, state-of-the-art control systems require accurate, responsive, and repeatable actuation of final control devices. Actuators are often overlooked when considering maintenance and ancillary support costs, yet they play an important role in system performance and can directly impact your company's bottom line.

Honeywell's 10260A medium torque industrially rated rotary actuator is engineered for exceptional reliability, accurate positioning, and low maintenance. Designed for very precise positioning of dampers and quarter turn valves, the 10260A performs especially well in extremely demanding environments requiring continuous-duty, high reliability, and low maintenance. Typical applications include furnace pressure dampers, fuel/air ratio valves, windbox dampers, coal mill dampers, scoop tubes, and Fluid Gyrois.



Actuator Operation

Spur gears and a single reduction worm/worm gear combine with a synchronous induction AC motor for accurate and repeatable positioning of final control elements.

The worm/worm gear combination also functions as a brake, capable of holding greater than two times the output torque in a back-driving condition.

Control options are available to interface with a modulating 4-20 mA input signal or position proportional (3 wire/PAT) and 4-20 mA customer feedback. Internal balance, customer feedback, and patented slidewire emulation is provided by a non-contacting position sensor.

Features

- **Accurate Positioning**
Motor/gear train provides accurate positioning with instantaneous start/stop characteristics
- **Enclosure**
Rugged, industrial grade enclosure
- **Non-Contact Position Sensing**
Non-contacting sensing lowers maintenance costs and improves performance.
- **Low Maintenance**
Simple-proven design means high reliability/low maintenance.
- **Duty Cycle**
100 % duty cycle motor.
- **Torque**
High torque capability in small package (10 to 300 lb-ft of torque)

- **Control Signals**
4-20 mA, 1-5 Vdc, Position proportional (PAT), Open/close (contact closure)
- **Output Signals**
0/4-20 mA, 0/1-5 Vdc (0-16 Vdc), and slidewire emulation.
- **Power Requirements**
Low power consumption 120/240 Vac, 50/60 Hz, single phase ≤ 1 amp.
- **Full Travel Speed**
Full stroke travel speeds from 10 to 60 seconds (90 degree travel, 60 Hz supply)
- **Manual Operation**
All 10260A series actuators are supplied with a manual handwheel to operate the actuator when power is not available.
- **Auto-Manual** electric handswitch with auxiliary contacts indicating an "Out-of-Auto" position is available for local electric control.
- **Output Shaft Hardware**
All 10260A series actuators are supplied with an adjustable radius and adjustable position crank arm. Optional 12" crank arm, linkage kits, and direct coupling hardware are available.
- **Limit Switches**
All 10260A series actuators are supplied with two end-of-travel electric limit switches. Up to 4 additional SPDT auxiliary switches are available.

- **Warranty**
Exceptional warranty – 18 months from shipment date
- **Certification**
CSA, UL and CE available

Non-Contact Position Sensing

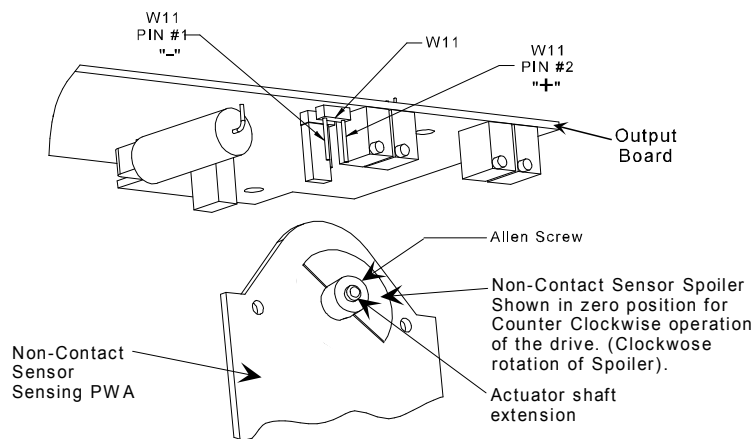
The Honeywell 10260A series actuators implement a variable inductance, non-contact position sensor mounted directly to the actuator output shaft providing precision position sensing from 0 to 90 degrees. This technology eliminates maintenance items such as wipers, bearings, as well as static friction, hysteresis and electrical noise over a wide range of demanding environmental conditions.

Slidewire Emulation

Honeywell Slidewire Emulation provides backward compatibility for three-wire position proportional control schemes while eliminating maintenance and control problems associated with slidewire wear.

The Slidewire Emulation Circuit (SEC) emulates the proportional voltage output of a typical slidewire through a high impedance circuit. The voltage output is proportional to the supply voltage and shaft position. A non-contact position sensor is used to determine shaft position in place of the slidewire.

This high impedance slidewire emulation circuit accepts supply voltages up to 18 Vdc and emulates voltage outputs typical of slidewires up to 1000 ohms



NCS Assembly

Specifications—General

Physical				
Weight	40 lb. (18 kg) net			
Enclosure	Precision-machined Aluminum alloy casting, finished in light gray powder coat epoxy.			
Gear train	Alloy steel, high efficiency steel spur gear primary train with safety fused idler gear. Precision ground, self-locking/ self-releasing worm gear final mesh.			
Mechanical stops	To prevent over-travel			
Operating Temperature	-30 °C to +85 °C (-20 °F to +185 °F)			
Storage Temperature	-40 °C to +93 °C (-40 °C to +200 °F)			
Relative Humidity	Fully operable over the range of 0-99 % R.H. non-condensing			
Scale	0 % to 100 % corresponding to full crank arm travel.			
Crank Arm	Adjustable radii (1-7/16" to a maximum of 5"). Position adjustable through 360° rotation. Optional 12" crank arm adjustable 0-12" radii.			
Output Shaft	1" diameter, 1-1/2" long is standard on 10261A, 10262A, 10264A, 10266A, 10267A, 10268A. 1" diameter, 2" long is standard on 10263A, 10265A and 10269A optional on other models.			
Rotation	90° degrees between 0 % and 100 % on scale, limited by mechanical stops.			
Direction of Rotation	Field selectable via switch and jumper. Default = CCW (determined looking into the shaft)			
Manual Handwheel	Provides a means of positioning the actuator in the event of a power failure or set-up.			
Lubrication	Texaco Starplex 2 EP Grease			
Fuses	<i>Bussmann GDB1.6</i> : 1.6 Amp Fast <i>Littlefuse 312001</i> : 1.0 Amp Fast			
Output Torque/Full Travel Stroking Time	Model #	Torque Lb-ft N-M		Output Shaft Speed sec/90° @60Hz @50Hz
	10261A	10	15	10 12
	10262A	20	27	20 24
	10264A	40	55	40 48
	10266A	60	80	60 72
	10267A	40	55	20 24
	10268A	80	110	40 48
	10269A	150	200	60 72
	10263A	200	270	40 48
	10265A	300	400	60 72

Electrical			
Power Input	120 Vac single phase, 50 or 60 Hz 240 Vac single phase, 50 or 60 Hz		
Motor	Instant start/stop, non-coasting, non-burnout, continuous duty permanent magnet synchronous induction motor. Can be stalled up to 100 hours without damage.		
Motor Current	= No load = full load = locked rotor		
	Model No.	120 V, 50/60 Hz	240 V, 50/60 Hz
	10261A, 62A, 64A, 66A	0.4 A (48 VA)	0.3 A (72 VA)
	10263A, 10265A	1.0 A (120 VA)	0.5 A (120 VA)
	10267A, 68A, 69A	0.8 A (96 VA)	0.3 A (72 VA)
Loss of Power	Stays in place		
Local Auto/Manual Switch	Optional – allows local and automatic operation of the actuator.		

Electrical	
Limit Switches	Standard – Two SPDT end of travel limits
Auxiliary Switches	Optional – Up to 4 additional SPDT switches rated (10 A at 125 Vac, 5 A at 250 Vac)
Certifications	
Approvals	CE Compliance/CSA/UL

Torque Settings of Crank Arm Bolts	
Clamp Bolt	<i>Standard Arm</i> (Part Number 087449) (1-7/16-5 in. adjustment): 85 lb-ft. <i>Optional Long Arm</i> (Part Number 154007) (0-12 in. adjustment): 85 lb-ft.
Rod End Bolt	<i>Standard and long arms</i> : 30-35 lb./ft

Specification – Actuator with Motor Positioner Board

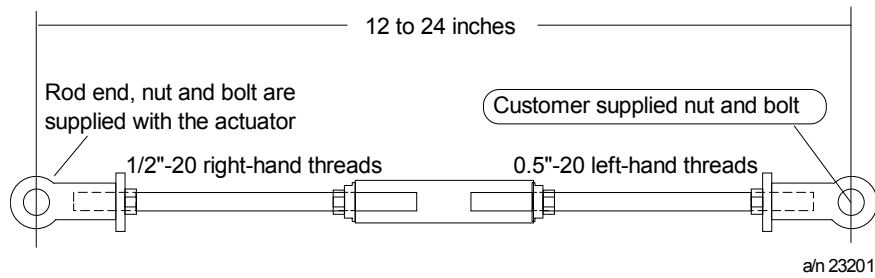
Electrical		
Input Signals	Input: 4-20 mA 1 Vdc to 5 Vdc with appropriate shunt resistor for current range (Resistor: 250 ohms \pm 0.1 % Part Number: 070756)	
Input Impedance	Input 4-20 mA 1-5 V with fail-safe Jumper W2 1-5 V without fail-safe Jumper W2	Input Impedance 250 ohms 10 K ohms 10 M ohms
Sensitivity	0.20 % to 5 % span adjustable. Shipped at approximately 0.5 % span	
Hysteresis	Less than 0.4 % of full scale	
Linearity	\pm 0.25 % of span	
Repeatability	0.2 % span	
Voltage/ Supply Stability	0.25 % of span with +10/–15 % voltage change	
Temperature Coefficient	Less than \pm 0.03 % of span per degree C for 0 °C to 50 °C Less than \pm 0.05 % of span per degree C for –30 °C to 85 °C	
Zero Suppression	100 % of span	
Input Filter	Adjustable to smooth input signal	
Maximum Input Voltage	5 Vdc	
Output	Two triac switches for raise-or-lower motor operation.	
Fail-safe operation	If input signal falls below 2% of span, there are four choices selected by a movable jumper: stop, go full upscale, go full downscale, or go to a selected (adjustable) position.	
Isolation	Input is isolated from power	

Specification – Actuator with Output Board

Electrical	
Feedback signals	0-20 mA 4-20 mA 1-5 Vdc with 250 ohm resistor 0-16 Vdc with 800 ohm resistor
Slidewire Emulation	Provides output voltage ratiometric to shaft position and potentiometric to supply voltage (1-18 Vdc) without a slidewire. Emulates a 100 ohm to 1000 ohm slidewire. 10 mA output maximum.
Isolation	Output is isolated from power and input signal
Load Requirement	Current Out — 0-1000 ohms

Turnbuckle Linkage Kits (Table V, Option E)

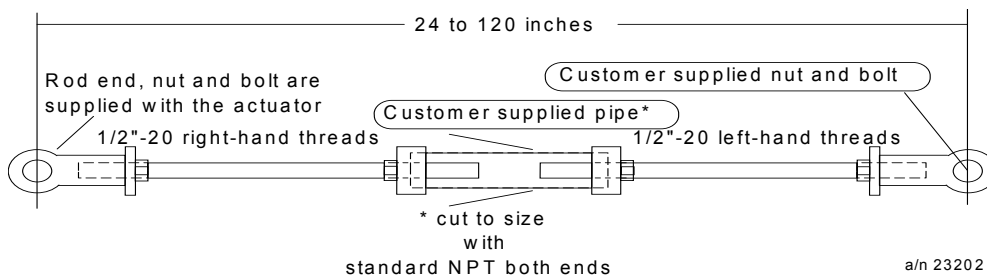
These kits are to be used where short lengths are required. These lengths range from 12 inches to 24 inches and refer to the rod end center-to-center distance. All turnbuckle kits include the turnbuckle, load rod end (left-hand thread), connecting rods and locking nuts. The nut and bolt used to connect the rod end to the load are supplied by the Customer. The actuator rod end (right-hand thread), nut and bolt are supplied with the actuator.



Turnbuckle Linkage Kit

Pipe Linkage Kits (Table V, Option E)

These kits are used for linkage lengths from 24 to 120 inches. All pipe linkage kits include the mechanical pipe couplings, load rod end (left-hand thread), connecting rods and locking nuts. The Customer must supply a piece of schedule 40 pipe* (Both ends with right-hand NP threads) and a nut and bolt to connect the rod end to the load. The actuator rod end (right-hand thread), nut and bolt are supplied with the actuator.



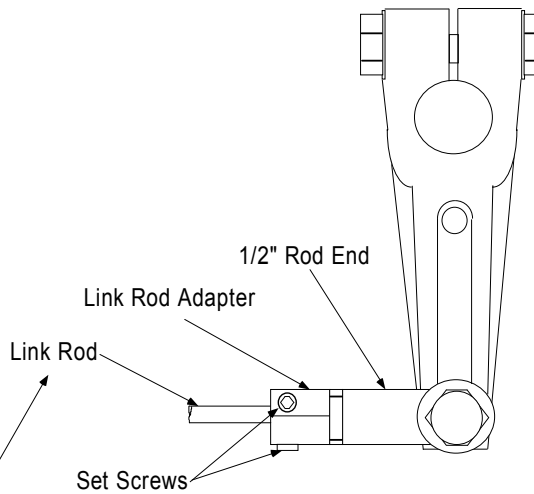
Pipe Linkage Kit

*Pipe length = Overall linkage length minus (-) 17 inches

Actuator Crank Arms

The 10260A Series Actuator comes standard with a 6” crank arm and there is an optional 12” crank arm that is adjustable from 0 to 12”.

The 10260A Series Actuator crank arm uses a standard 1/2” rod end to compliment the turnbuckle and pipe linkage kits. The crank arm connects the link rod using a 1/2” rod end and a hex link rod adapter. For applications which use a link rod, a link rod adapter is available as an option in the MSG.

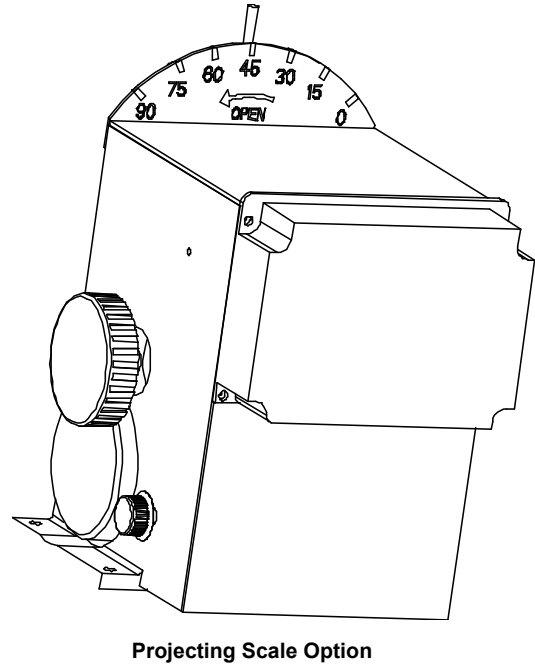


Insert the Link Rod Completely into the Link rod Adapter and tighten the (2) set screws with sufficient force to hold the link rod.

Standard 6” Crank Arm

Projecting Scale Option (Table V, Option B)

The projecting scale option is available for customers whose actuators are direct coupled or positioned such that it would be impossible to read the standard scale on the actuator. The projecting scale sits above the actuator and can be read at a distance from the front side of the actuator as well as the normal shaft side of the actuator.



Model Selection Guide

Reference 62-86-16-17

Instructions

- Select the desired key number. The arrow to the right marks the selection available.
- Make the desired selections from Tables I thru VII using the column below the arrow.
A dot (•) denotes unrestricted availability.

Key Number I II III IV V VI VII

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KEY NUMBER - Electronics			Selection	Availability
Output Torque (lb. - ft.) (N - M)	Full Travel Stroking - Time in Seconds			
	60 Hz	50 Hz		
10 (15)	10	12	10261A	↓
20 (27)	20	24	10262A	↓
40 (55)	40	48	10264A	↓
60 (80)	60	72	10266A	↓
40 (55)	20	24	10267A	↓
80 (110)	40	48	10268A	↓
150 (200)	60	72	10269A	↓
200 (270)	40	48	10263A	↓
300 (400)	60	72	10265A	↓

TABLE I - POWER SUPPLY - SINGLE PHASE

120 VAC 60 Hz	Single Phase 120 VAC 60Hz Motor	1	•
120 VAC 50 Hz	Single Phase 120 VAC 50Hz Motor	2	•
220/240 VAC 60 Hz	Single Phase 220/240 VAC 60Hz Motor	3	•
220/240 VAC 50 Hz	Single Phase 220/240 VAC 50Hz Motor	4	•

TABLE II - CONTROLS

Up/Dn	Drive Up/Dn	0	•
4-20mAdc / 1-5Vdc	4-20mAdc or 1-5Vdc (w/resistor change)	1	•

TABLE III - CUSTOMER POSITION OUTPUTS

None	No position outputs provided	00	•
SEC (Note 1)	One slidewire emulation output (3-Wire Pos. Proportional)	01	•
Analog Output (Note 2)	4-20mAdc, 0-20mAdc, 0-5Vdc, 1-5Vdc, or 0-1.25Vdc	03	•
Film Potentiometer	Dual 1000 ohm	04	d
(Note 3)	Single 1000 ohm	05	e

TABLE IV - CONTACT OUTPUTS

Limit Switches	1 CW & 1 CCW Limit Switch	0	•
Limit/Auxiliary Switches	1CW, 1CCW, & 2 Auxiliary SPDT Switches	2	•
Limit/Auxiliary Switches	1CW, 1CCW, & 4 Auxiliary SPDT Switches	4	•
Limit/Auto-Manual	1CW, 1CCW, Auto/Man Switch	5	•
Limit/Auto/Auxiliary	1CW, 1CCW, Auto/Man Switch & 2 Aux	7	•
Limit/Auto/Auxiliary	1CW, 1CCW, Auto/Man Switch & 4 Aux	9	•

- Note 1:** Slidewire emulation output is a solid state emulation circuit providing a ratiometric voltage slidewire signal without utilizing an actual slidewire. Emulates slidewires using voltages up to 20.0Vdc.
- Note 2:** Analog output is factory set to 4-20mAdc. Additional listed outputs are customer selectable by jumper and/or output resistor selection.
- Note 3:** 135 ohm available with 158 ohm resistor supplied with actuator.
100 ohm available with 110 ohm resistor supplied with actuator.

1A, 2A, 3A, 4A, 5A
6A, 7A, 8A, 9A
1026__

TABLE V - OPTIONS

		Selection	↓
Shafts	Standard	0 ___	•
	5 Inch (127,0 mm) Extension	1 ___	a
	3 Inch (76,2 mm) Extension	3 ___	a
Projecting Scale	None	_ 0 ___	•
	3/4 Inch (19,05 mm) Shaft Coupling, CW	_ 1 ___	b
	3/4 Inch (19,05 mm) Shaft Coupling, CCW to Open	_ 2 ___	b
	1 Inch (25,4 mm) Shaft Coupling, CW	_ 3 ___	b
	1 Inch (25,4 mm) Shaft Coupling, CCW to Open	_ 4 ___	b
	CW to Open, No Coupling	_ 5 ___	c
	CCW to Open, No Coupling	_ 6 ___	c
Crank Arm	5 Inch (127,0 mm) Standard	__ 0 __	•
	None	__ 1 __	•
	12 Inch (304,8 mm)	__ 2 __	•
Rod Adapter	None	___ 0 _	•
	3/8 Inch (9,53 mm)	___ 1 _	•
Linkage Kits	None	_____ 0	•
	12 In. (30,5 cm) to 16 In. (40,6 cm) Turnbuckle Kit	_____ 1	•
	16 In. (40,6 cm) to 20 In. (50,8 cm) Turnbuckle Kit	_____ 2	•
	20 In. (50,8 cm) to 24 In. (60,9 cm) Turnbuckle Kit	_____ 3	•
	1 Inch (25,4 mm) Pipe Kit	_____ 4	•
	1.5 Inch (38,1 mm) Pipe Kit	_____ 5	•
	2 Inch (50,8 mm) Pipe Kit	_____ 6	•

TABLE VI - OPTIONS

Weatherproof	Weatherproof	0 __	•
	NEMA 4/IP66	1 __	•
Approvals	None	_ 0 _	•
	CE	_ 1 _	•
	CSA	_ 2 _	•
	UL	_ 3 _	•
Tagging	None	__ 0	•
	Linen (Note 4)	__ 1	•
	Stainless Steel (Note 4)	__ 2	•

TABLE VII - OPTIONS 2

Special Manuals	No Special Options (US Manual Standard)	0 _	•
	English (European format)	1 _	•
	French (European format)	2 _	•
Other	None	_ 0	•
	Certificate of Conformance	_ 2	•

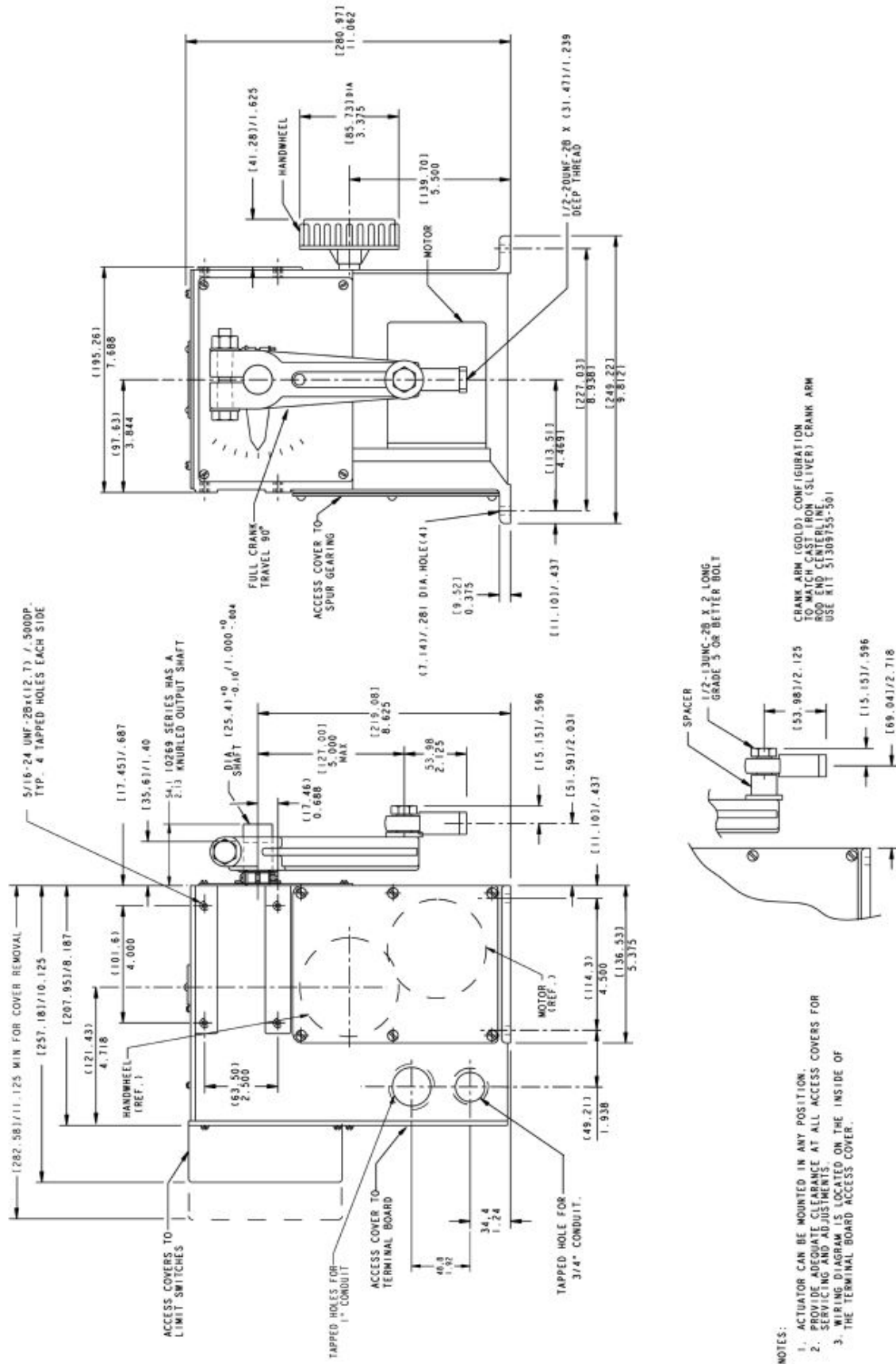
ACCESSORIES

	Description	Part Number
Rod Adapters	5/8 Inch (15,88 mm)	083338
	7/16 Inch (11,11 mm)	083336
	7/8 Inch (22,23 mm)	083339
Crank Arm	5 Inch Standard (127,0 mm)	51309967-501
	12 Inch (304,8 mm)	51452160-501

RESTRICTIONS

Restriction Letter	Available Only With		Not Available With	
	Table	Selection	Table	Selection
a	V	X0XXX	Key Number	10263A, 10265A, 10269A
b	V	0X100	Key Number	10263A, 10265A, 10269A
c	V	0XXXX	NA	NA
d	II	0	II	1
e	II	1	II	0
f	V	X0XXX	NA	NA

Note 4: Customer must supply tagging information - Up to 3 lines, 22 characters per line.



Outline and Dimensions of 10261A, -62A, -64A, -66A, -67A -68A and -69A Actuators

Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

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While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

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For More Information

Learn more about how Honeywell's HercuLine® 10260A Series Actuators operate at maximum efficiency with low maintenance, visit our website www.honeywell.com/ps/hfs or contact your Honeywell account manager.

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HercuLine Smart Actuator Series 10260S Specifications

62-86-03-12 July 2008



Overview

Honeywell's HercuLine® 10260S Smart actuators incorporate all of the high quality and reliable features of the traditional HercuLine actuators plus the added benefits of a microprocessor-based enhanced electronics unit (EEU). These additional benefits provide:

- Faster set-up and commissioning
- Network capability
- Health parameter monitoring for proactive maintenance planning.

HercuLine 10260S Smart actuators enable operation at maximum process efficiency, minimal downtime, and access to all actuator parameters for real-time business decisions.

Honeywell's 10260S actuators are industrial rated and engineered for very precise positioning of dampers and valves. The HercuLine 10260S performs especially well in extremely demanding environments requiring continuous duty, high reliability, and low maintenance. Typical applications are furnace pressure dampers, gas/air valves, windbox dampers, coal mill dampers, and more.

Actuator Operation

Microprocessor-based electronics continually monitor the performance, health, and position of the actuator for repeatable positioning and response to demand signal. When instructed to move, the enhanced electronics unit fires the appropriate triac on the motor drive circuit to position the motor. Actuator position sensing is via a non-contact position sensor that is continually monitored by the electronics.

Spur gears and a single reduction worm/worm gear combine with a synchronous AC induction motor for accurate and repeatable positioning of final control elements.

The worm/worm gear combination also functions as an anti-backdrive mechanism, capable of holding two times the rated output torque in a back-driving condition.

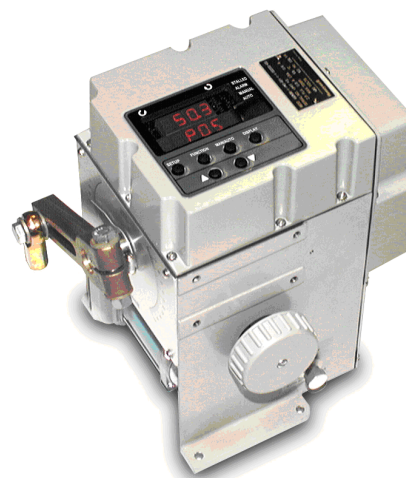


Figure 1 HercuLine 10260S Smart Actuator

Features

Performance —

- **Accurate Positioning** – Motor/gear train provides accurate positioning with almost instantaneous start/stop characteristics.
- **Non-Contact Position Sensing** – Non-contacting sensing lowers maintenance costs and improves performance.
- **Duty Cycle** – Continuous duty cycle motor. No burn out.
- **Full Travel Speed** – Full stroke travel speeds from 10 to 60 seconds (90 degree travel, 60 Hz supply).
- **Torque** – High torque capability in small package (10 to 300 lb-ft).
- **High Accuracy** – Typically 0.25% of 90° span.
- **High repeatability** – Typically 0.2% of 90° span

- **Characterization** – Linear, square root, or user configured 21-point characterization allows tailoring of control for specific applications.
- **Input Filter setting** – Four programmable combinations of input filter settings are provided to accommodate various customers' needs. The combinations are none, spike, low pass, or spike + low pass filter.
- **Deadband** – Deadband is programmable between the values of 0.2% to 5% of 90° span.

Operation —

- **Control Signals** – 0/4 to 20 mA, 0/1 to 5 Vdc, 0 to 10 Vdc, Digital remote setpoint (RS485 Modbus RTU protocol).
- **Output Signals** – 0/4 to 20 mA, 0/1 to 5 Vdc and slidewire emulation.
- **Power Requirements** – Low power consumption 120/240 Vac, 50/60 Hz, single phase < 1 Amp.
- **Manual Operation** – All 10260S series actuators are supplied with a manual hand wheel to operate the actuator when power is not available.
- **Auto-Manual** – electric hand switch with auxiliary contacts indicating an "Out-of-Auto" position is available for local electric control.
- **RS485/Modbus RTU Communication** – Simple and easy to use Modbus RTU communication is standard with all 10260S actuators allowing seamless networking of Honeywell control products.
- **Hart™ Communication** – For Hart users, optional HART communications provides access to calibration, configuration, and maintenance data. In addition, the HART communications option is structured to work with the HART Asset Management Features.
- **Auxiliary Outputs** – Two types of auxiliary outputs can be specified, SPDT switches or electromechanical relay outputs. Relay outputs can be programmed to output alarm conditions, provide control of other equipment, or indicate status.
- **Alarm Functions** – Alarms may be assigned to relay outputs or may be accessed through Modbus. Alarms can be triggered from stall, temperature limits, motor cycle count, out of automatic mode, digital input, position, input failure, position sensor failure, power up failure, and more.
- **Local HMI Configuration** – An integral keypad and high intensity display is available for non-intrusive local configuration of the actuator ([Figure 2](#)).
- **Configuration security** – Password protection is provided, allowing users to lock out some, all, or no groups of setup parameters to prevent tampering.
- **Factory Calibration** – Factory calibration is stored in non-volatile memory and can be restored via the local HMI at any time.
- **Direction of rotation** – Direction of rotation on increasing input signal is programmable.
- **Split range operation** – Split range is programmable and infinitely adjustable.
- **Digital Input Override** – A digital input is provided and is programmable to provide override of all other input signals as an emergency override of control. The digital input can be programmed to drive the actuator open, closed, remain in-place, or to a user specified position on contact closure.
- **Failsafe** – When input signal exceeds high or low range limits (or input signal failure), the actuator can be programmed to drive open, closed, remain in-place, or drive to a user specified position.

Construction —

- **Enclosure** – Rugged, industrial grade enclosure.
- **Low Maintenance** – Simple-proven design means high reliability/low maintenance.
- **Output Shaft Hardware** – All 10260S series actuators are supplied with an adjustable radius and adjustable position crank arm. Optional 12" crank arm, linkage kits, and direct coupling hardware are available.
- **Limit Switches** – Two end-of-travel electric limit switches are supplied as standard equipment with all 10260S series actuators.
- **Warranty** – Exceptional warranty
- **Certification** – CSA, UL (Future) CE available.

Health Monitoring

A standard feature on all 10260S actuators accumulates information about actuator operation. The information then can be used to evaluate and determine predicted or scheduled maintenance periods.

Parameters monitored are accumulated stall time, exceeded thermal operating rating of the actuator, and number of motor starts in a region of travel, total travel and current actuator travel.

Non-Contact Position Sensing

Honeywell 10260S series actuators implement a variable inductance, non-contact position sensor mounted directly to the actuator output shaft providing precision position sensing from 0 to 90 degrees, (Figure 3). This technology eliminates maintenance items such as wipers, bearings, as well as static friction, hysteresis and electrical noise over a wide range of demanding environmental conditions.

Local Display and Keypad

Configuration and set-up is through the local HMI, consisting of a display and keypad interface (Figure 2). A high intensity 10-character LED display and simple push buttons provide quick access for actuator set up and status information. If relay outputs are specified, all configurations can be done through either the local HMI interface or the PC configurator. If mechanical switches are specified, then the user must manually set the auxiliary output.

Slidewire Emulation

The Slidewire Emulation Circuit (SEC) emulates the proportional voltage output of a typical slidewire through a high impedance circuit. The voltage output is proportional to the supply voltage and shaft position. A non-contact position sensor is used to determine shaft position in place of the slidewire.

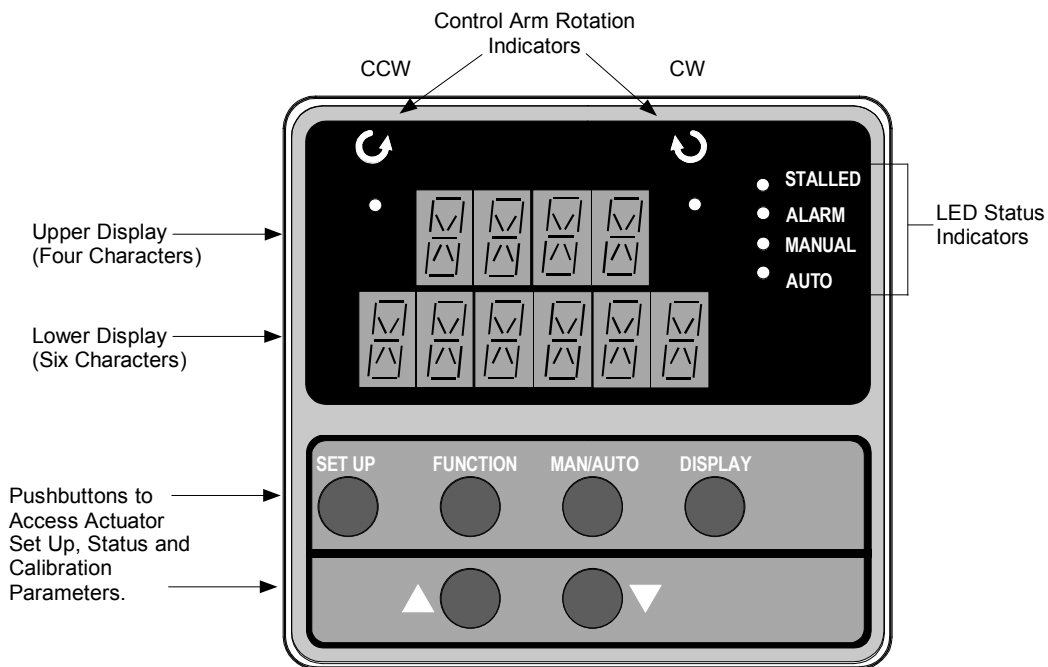


Figure 2 Local HMI (Display and Keypad)

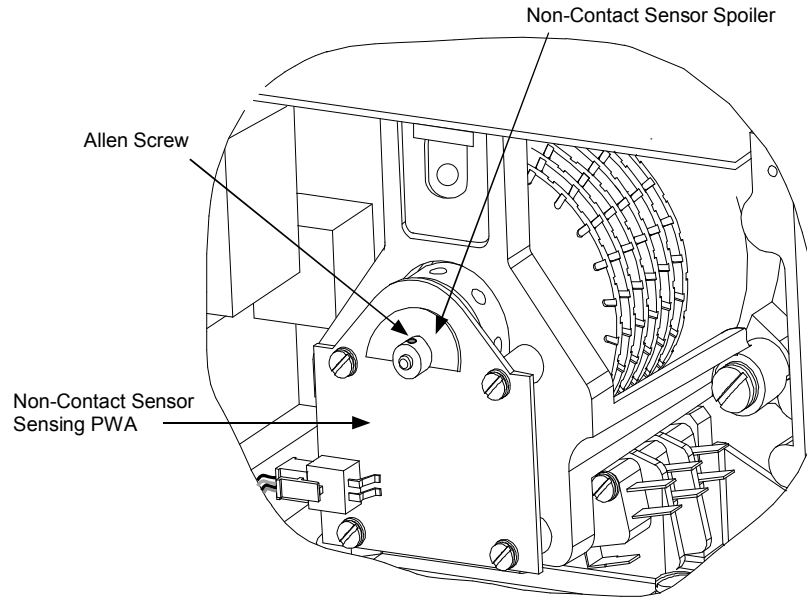


Figure 3 Non-Contact Sensor Assembly

Set Up/Configuration Parameters

Configuration parameters are logically grouped and accessed using the local HMI. Actuator calibration is also accomplished through a simple procedure using the keypad. By pressing the SETUP button on the HMI, you can step through the set up groups that contain all of the configuration parameters. The table below summarizes the configuration parameters available within the various set up groups. Full details of all configuration parameters are found in the *10260S Series Smart Actuator Installation, Operation and Maintenance Manual*, document number 62-86-25-08

Set Up Group	Configuration Parameter Selections/Settings	
<p>SET INPUT— Selects various parameters that define actuator operation.</p>	<p>IN TYP – Input Actuation Type INP HI – Input High Range Value INP LO – Input Low Range Value FILTYP – Input Filter Type LPFILT – Low Pass Filter Time Constant Direct – Actuator Rotation</p>	<p>Dband – Input Deadband FsTYP – Failsafe Type FsVAL – Failsafe Value CHAR – Input Characterization LDCAL – Restore Calibration Type</p>
<p>SET RELAY— When the actuator is equipped with optional relays, this set up group allows you to set relay action for various actuator operating conditions. Contact closure can be wired to external annunciators or alarm points to indicate conditions for any of the Relay Types.</p>	<p>RTYPnn - Relay Type Input Range Position Range Deviation Upper or Lower Limit Travel Temperature High or Low Cycle Count Motor Stalled Manual Mode Power Up Test Failure Input Signal Failure Position Sensor Signal Failure Digital Input Closure</p>	<p>RnnE – Relay Count Multiplier RnnVAL – Relay Value Rnn HL – Relay High/Low RLYnHY – Relay Hysteresis</p>

Set Up Group	Configuration Parameter Selections/Settings	
SET CUROUT — Selects the current (or voltage) output range of the actuator.	CUROUT - Output Signal Range 4 – 20 mA 0 – 20 Ma 1 – 5V 0 – 5V SW E	
SET COMM — Actuator can be defined as a master or slave device on a Modbus RTU RS-485 loop. Operating setpoint can be transmitted to the actuator and operating status can be read when connected to supervisory control systems.	COMM – Communications Parameters ADDRES – Device Address BAUD – Baud Rate XmtDLY – Response Delay DBLBYT – Floating Point Data Format	
SET DIGINP — Selects digital input action upon contact closure.	DIGINP – Digital Input State Endpos – End Position Value	
SET DISPLA — Selects desired decimal places and engineering units for local display.	DECMAL – Decimal Point Location EUNITS – Units Display UNITS – Display Units	
CAL INPUT, MTR, CURENT — If needed, calibration of the actuator input, motor position and actuator output can be performed using the local keypad and display.		
SET LOCK — Enables lock out or access to selected set up group parameters and calibration values.	LOCKID – Set Security Password LOCK – Lock Out	
READ STATUS — Displays failsafe condition and the results of various diagnostics performed during power up.	FAILSF – Failsafe RAMTST – RAM Test Diagnostic SEETST – Serial EEPROM Test Diagnostic	CFGTST – Configuration Test Diagnostic CALTST – Calibration Test Diagnostic
SET DRVINP — Allows access to actuator device information.	VERNON – Firmware Version SPEED – Stroke Speed POWER – Power Input Voltage and Line Frequency TAG – Tag Name	MFGDAT – Manufacturing Date LREP – Date of Last Repair LCAL – Date of Last Field Calibration REPTYP – Repair Type
SET MAINT — Allows access to parameters that monitor operating conditions.	TEMP – Actuator Temperature TEMPHI – High Temperature Limit TEMPLO – Low Temperature Limit ACSTAL – Accumulated Stall Time STARTS – Accumulated Motor Starts	RLnCNTS – Relay Cycle Counts REGNn – Accumulated Motor Starts (Regions of Motor Travel) TOTDEG – Total Degrees of Motor Travel MANRST – Reset Maintenance Statistics

Specifications – General

Physical	
Weight	45 lb. (20.4 kg) net
Enclosure	Precision-machined Aluminum alloy casting, finished in light gray powder coat epoxy.
Gear Train	Alloy steel, high efficiency steel spur gear primary train. Precision ground, self locking/self releasing worm gear final mesh.
Mechanical Stops	To prevent over-travel.
Operating Temperature	-30 °C to +75 °C (-20 °F to +170 °F)
Storage Temperature	-40 °C to +93 °C (-40 °C to +200 °F)
Relative Humidity	0 to 99 % R.H. non-condensing over the full operating temperature range.
Scale	0 % to 100 % corresponding to full crank arm travel.
Crank Arm	Adjustable radii (1-7/16" to a maximum of 5"). Position adjustable through 360° rotation. Optional 12" crank arm adjustable 0 to 12" radii.
Output Shaft	1" diameter, 1-1/2" long is standard on 10261S, 10262S, 10264S, 10266S, 10267S, 10268S. 1" diameter, 2" long is standard on 10263S, 10265S and 10269S optional on other models.
Rotation	90° degrees between 0 % and 100 % on scale, limited by mechanical stops.
Direction of Rotation	Field selectable via HMI.
Manual Handwheel	Provides a means of positioning the actuator in the event of a power failure or set-up.
Lubrication	Texaco Starplex 2 EP Grease

Specifications – General

Electrical					
Output Torque/Full Travel Stroking Time	Model #	Torque Lb-ft N-M		Output Shaft Speed sec/90° @60Hz @50Hz	
	10261S	10	15	10	12
	10262S	20	27	20	24
	10264S	40	55	40	48
	10266S	60	80	60	72
	10267S	40	55	20	24
	10268S	80	110	40	48
	10269S	150	200	60	72
	10263S	200	270	40	48
	10265S	300	400	60	72
Mains Supply	120 Vac single phase, 50 or 60 Hz 240 Vac single phase, 50 or 60 Hz				
Motor	Instant start/stop, non-coasting, non-burnout, continuous duty, permanent magnet, synchronous induction motor. Can be stalled up to 100 hours without damage.				
Motor Current	= No load = full load = locked rotor				
	Model No.	120 V, 50/60 Hz		240 V, 50/60 Hz	
	10261S, 62S, 64S, 66S	0.4 A (48 VA)		0.3 A (72 VA)	
	10263S, 10265S	1.0 A (120 VA)		1.0 A (120 VA)	
	10267S, 68S, 69S	0.8 A (96 VA)		0.3 A (72 VA)	
Fuses (Motor drive)	<i>Wickmann USA #373-1160-0-41: 1.6 Amp Fast (2)</i>				

Electrical	
Loss of Power	Stays in place.
Local Auto/Manual Switch	Optional – Allows local and automatic operation of the actuator.
Limit Switches	Standard – Two SPDT end of travel limits.
Auxiliary Switches/Relays	Optional – Up to 4 additional SPDT switches rated (10 A at 125 Vac, 5 A at 250 Vac) or 4 relay outputs, programmable.

Certifications	
Approvals	CE Compliance (<i>Optional</i>) CSA/UL NEMA 4

Torque Settings of Crank Arm Bolts	
Clamp Bolt	<i>Standard Arm</i> (Part Number 087449) (1-7/16 to 5 in. adjustment): 85 lb-ft. <i>Optional Long Arm</i> (Part Number 154007) (0 to 12 in. adjustment): 85 lb-ft.
Rod End Bolt	<i>Standard and long arms</i> : 30-35 lb./ft

Specifications – Actuator

Electrical		
Input Signals	Analog: 0/4 to 20 mA (With supplied shunt resistor for current range: 250 ohms \pm 0.1 % Part Number: 070756) 0/1 to 5 Vdc 0 to 10 Vdc Digital: Remote Setpoint via Modbus RTU (RS485)	
Input Impedance	Input 0/4 to 20 mA 0/1 to 5 Vdc	Input Impedance 250 ohms 10 K ohms
<i>Input Characterization</i>	Provides characterization of the input signal. Selections are Linear, Square Root or Custom – Equal %, Quick Opening, User Defined.	
Sensitivity	0.2 % to 5 % of 90° span, proportional to deadband	
Hysteresis	Less than 0.4 % of full scale	
Deadband	0.2 % to 5 % of 90° span, adjustable. Shipped at 0.5%	
Repeatability	0.2 % of 90° span	
Voltage/ Supply Stability	0.25 % of span with +10/–15 % voltage change	
Temperature Coefficient	Less than \pm 0.030 % of span per degree C for 0 °C to 50 °C Less than \pm 0.05 % of span per degree C for –30 °C to 75 °C	
Zero Suppression	90% of span.	
Input Filters	Selectable spike and low pass filters.	
Solid State Motor Control	Two triac switches for clockwise or counterclockwise motor operation.	
Failsafe operation	If input signal exceeds configured input range. Selectable and adjustable.	

Electrical (Continued)	
Feedback signals	0 to 20 mA, 4 to 20 mA 1 to 5 Vdc with 250 ohm resistor, (0 to 16 Vdc with 800 ohm resistor)
Slidewire Emulation	Provides output voltage ratiometric to shaft position and potentiometric to supply voltage (1 to 18 Vdc) without a slidewire. Emulates a 100 ohm to 1000 ohm slidewire. 10 mA output maximum.
Isolation	Input signal, output signal and power are isolated from each other.
Load Requirement (4-20)	Current Out — 0 to 1000 ohms
Programmable Functions	Selectable and configurable operating parameters:
	<ul style="list-style-type: none"> • Input range • Input filtering • Input characterization • Security • Digital Input action • Deadband • Failsafe on loss of input signal • Failsafe on loss of position sensor • Direction of rotation • Relay closure action • Communication parameters • Split range operation • Output range • Alarms

Turnbuckle Linkage Kits (Table V, Option E)

These kits are to be used where short lengths are required. These lengths range from 12 inches to 24 inches and refer to the rod end center-to-center distance. All turnbuckle kits include the turnbuckle, load rod end (left-hand thread), connecting rods and locking nuts. The nut and bolt to connect the rod end to the load are supplied by the Customer. The actuator rod end (right-hand thread), nut and bolt are supplied with the actuator.

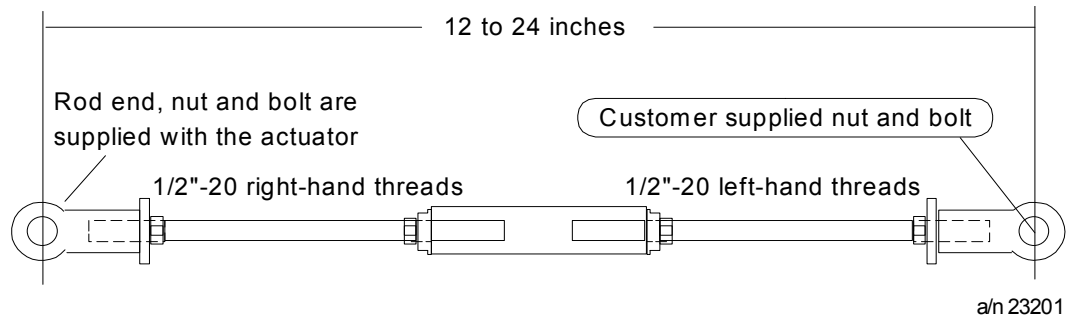
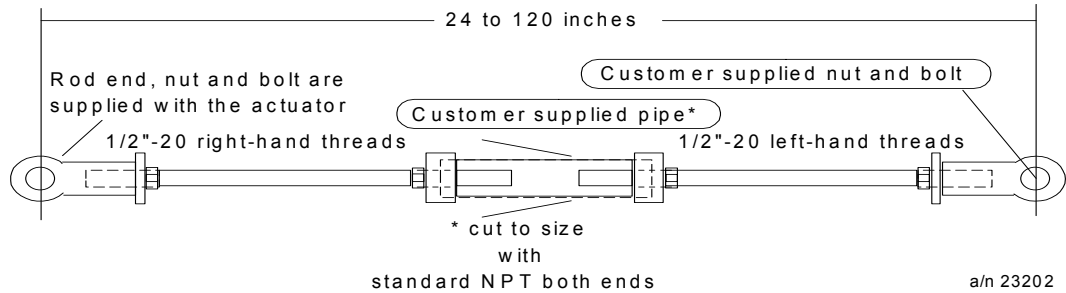


Figure 4 Turnbuckle Linkage Kit

Pipe Linkage Kits (Table V, Option E)

These kits are used for linkage lengths from 24 to 120 inches. All pipe linkage kits include the mechanical pipe couplings, load rod end (left-hand thread), connecting rods and locking nuts. The Customer must supply a piece of schedule 40 pipe* (Both ends with right-hand NP threads) and a nut and bolt to connect the rod end to the load. The actuator rod end (right-hand thread), nut and bolt are supplied with the actuator.



Pipe length = Overall linkage length minus (-) 17 inches

Figure 5 Pipe Linkage Kit

Actuator Crank Arms

The 10260S Series Actuator comes standard with a 5-inch crank arm (Figure 6) and there is an optional 12-inch crank arm that is adjustable from 0 to 12 inches. The crank arm uses a standard 1/2" rod end to compliment the turnbuckle and pipe linkage kits.

For applications that use a link rod, a link rod adapter is available as an option in the Model Selection Guide.

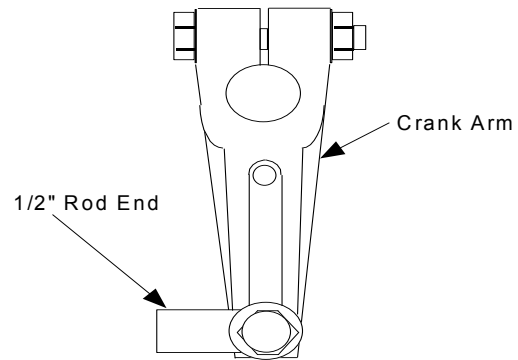


Figure 6 Standard 5" Crank Arm

Projecting Scale Option (Table V, Option B)

The projecting scale option is available for customers whose actuators are direct coupled or positioned such that it would be impossible to read the standard scale on the actuator. The projecting scale is attached to the actuator and is readable from a distance from the front side of the actuator as well as the normal shaft side of the actuator.

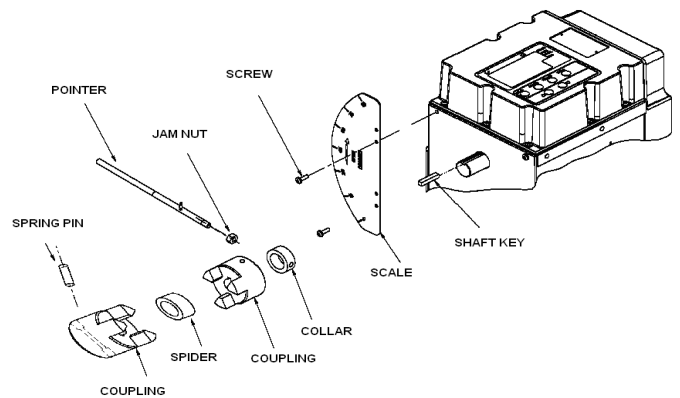


Figure 7 Projecting Scale Option Exploded View

Model Selection Guide

Reference 62-86-16-19

Instructions

- Select the desired key number. The arrow to the right marks the selection available.
- Make the desired selections from Tables I thru VIII using the column below the arrow.
A dot (•) denotes unrestricted availability.

Key Number I II III IV V VI VII VIII

- - - - - - - -

KEY NUMBER - Torque and Speed			Selection	Availability
Output Torque (lb. - ft.) (N - M)	Full Travel Stroking - Time in Seconds			
	60 Hz	50 Hz		
10 (15)	10	12	10261S	↓
20 (27)	20	24	10262S	↓
40 (55)	40	48	10264S	↓
60 (80)	60	72	10266S	↓
40 (55)	20	24	10267S	↓
80 (110)	40	48	10268S	↓
150 (200)	60	72	10269S	↓
200 (270)	40	48	10263S	↓
300 (400)	60	72	10265S	↓

TABLE I - POWER SUPPLY - SINGLE PHASE

120 VAC 60 Hz	Single Phase 120 VAC 60Hz Motor	1	•
120 VAC 50 Hz	Single Phase 120 VAC 50Hz Motor	2	•
220/240 VAC 60 Hz	Single Phase 220/240 VAC 60Hz Motor	3	•
220/240 VAC 50 Hz	Single Phase 220/240 VAC 50Hz Motor	4	•

TABLE II - ANALOG INPUT/OUTPUT SIGNALS

Input	4-20 mA, 0-20mA (1-5 Vdc, 0-5 Vdc, 1-10 Vdc, 0-10Vdc)	0__	•
Output	No Analog Position Output	_00	•
	4-20 mA, 0-20mA (1-5 Vdc, 0-5 Vdc, 1-10 Vdc, 0-10Vdc)	_20	•
	Slidewire Emulation	_40	•

TABLE III - SWITCH AND RELAY OUTPUTS (2 end-of-travel limit switches standard)

Auxiliary Switches and Relay Outputs	None	00_	•
	2 Auxiliary SPDT Switches	20_	•
	4 Auxiliary SPDT Switches	40_	•
	2 Auxiliary + 2 Programmable Relay Outputs	22_	•
	2 Programmable Relay Outputs	02_	•
	4 Programmable Relay Outputs	04_	•
Auto/Manual Switch	None	__0	•
	One Auto/Manual Switch with Out-of-Auto Contact	__1	•

TABLE IV - CONFIGURATION INTERFACE

Remote (Note 1)	None - requires HercuLink™	0	•
Local	Integrally mounted local display/keypad interface	1	•

TABLE V - COMMUNICATIONS/PROTOCOL

Modbus RTU RS485	RS-485 Modbus compliant - standard with EEU	0	•
HART 5	HART Communications Protocol	2	•
HART 6	HART Communications Protocol	3	•

TABLE VI - OPTIONS

Shafts	Standard	0 _ _ _ _	•
	5 Inch Extension	1 _ _ _ _	b
	3 Inch Extension	3 _ _ _ _	e
Projecting Scale	None	_ 0 _ _ _	•
	3/4 Inch Shaft Coupling	_ 1 _ _ _	c
	3/4 Inch Shaft Coupling, CCW to Open	_ 2 _ _ _	c
	1 Inch Shaft Coupling	_ 3 _ _ _	c
	1 Inch Shaft Coupling, CCW to Open	_ 4 _ _ _	c
	CW to Open, No Coupling	_ 5 _ _ _	d
Crank Arm	5 Inch Standard	_ _ 0 _ _	•
	None	_ _ 1 _ _	•
	12 Inch	_ _ 2 _ _	•
Rod Adapter	None	_ _ _ 0 _	•
	3/8 Inch	_ _ _ 1 _	•
Linkage Kits	None	_ _ _ _ 0	•
	12 to 16 Inch Turnbuckle Kit	_ _ _ _ 1	•
	16 to 20 Inch Turnbuckle Kit	_ _ _ _ 2	•
	20 to 24 Inch Turnbuckle Kit	_ _ _ _ 3	•
	1 Inch Pipe Kit	_ _ _ _ 4	•
	1.5 Inch Pipe Kit	_ _ _ _ 5	•
	2 Inch Pipe Kit	_ _ _ _ 6	•

TABLE VII- OPTIONS

Weatherproof	Weatherproof	0 _ _	•
	NEMA4/IP66	1 _ _	•
Approvals	None	_ 0 _	•
	UL / CSA	_ 1 _	•
	CE	_ 2 _	•
Tagging	None	_ _ 0	•
	Linen (Note 2)	_ _ 1	•
	Stainless Steel (Note 2)	_ _ 2	•

TABLE VIII - FACTORY OPTIONS

Special Manuals	No Special Options (US Manual Standard)	0 _	•
Other	None	_ 0	•
	Certificate of Conformance	_ 2	•

ACCESSORIES

	Description	Part Number
Handheld Configurator (Note 3)	HercuLink™ Palm Software	51452354-509
	Battery powered 232/485 converter w/cable	51452354-510
HART	Turk Cable for Handheld Connection	51452352-501
Rod Adapters	5/8 Inch	083338
	7/16 Inch	083336
	7/8 Inch	083339
Crank Arm	5 Inch Standard	51309967-501
	12 Inch	51452160-501

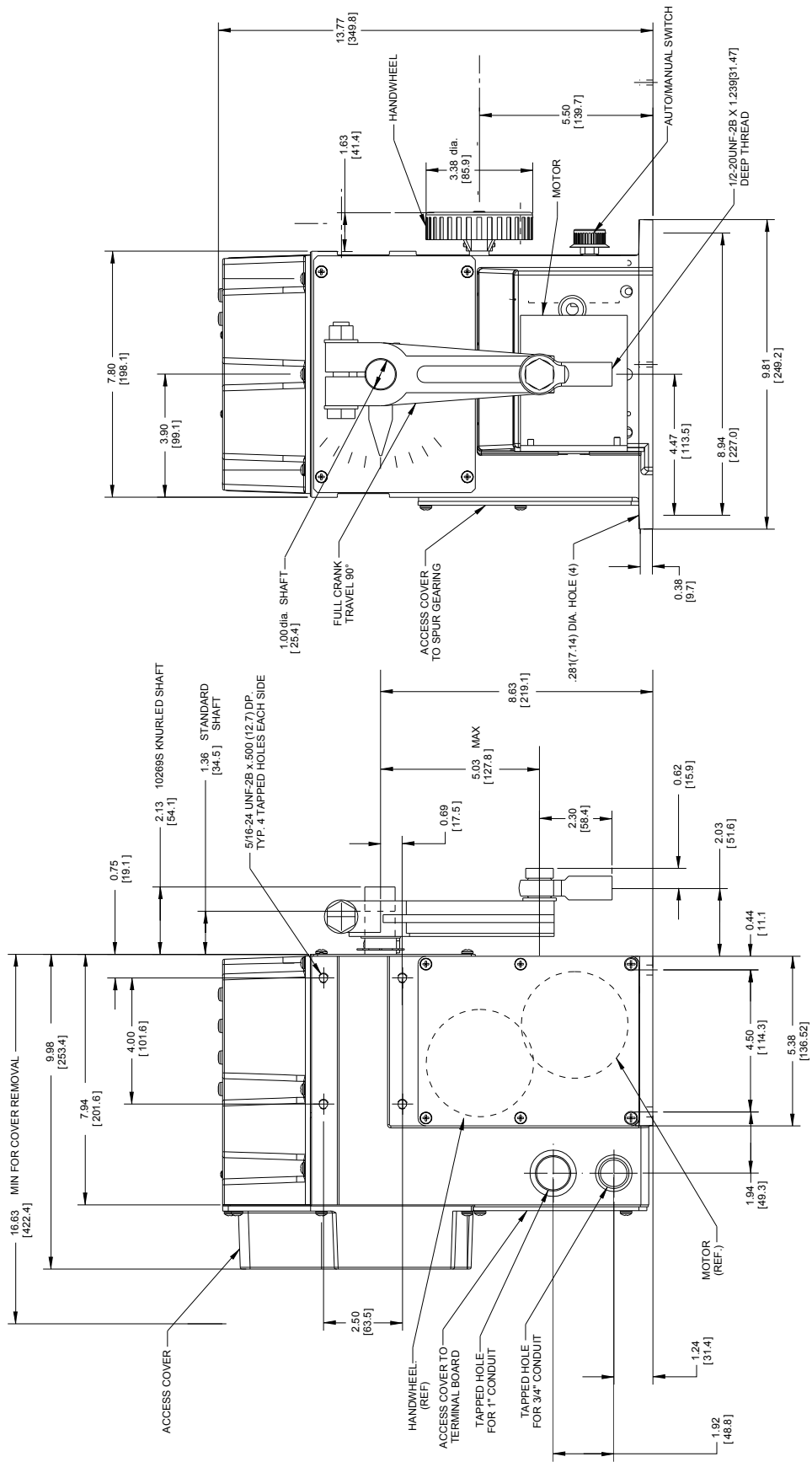
RESTRICTIONS

Restriction Letter	Available Only With		Not Available With	
	Table	Selection	Table	Selection
b	VI	X0XXX	Key Number	10263A, 10265A, 10269A
c	VI	0X100	Key Number	10263A, 10265A, 10269A
d	VI	050XX, 060XX, 051XX, 061XX	Key Number	10263A, 10265A, 10269A
e	VI	X0XXX	NA	NA

Note 1: HercuLink™ software (51452354-509), RS232/485 converter (51452354-510), customer supplied Palm™ PDA running OS3.5 or higher and Palm serial cable are required if no display is selected.

Note 2: Customer must supply tagging information - Up to 3 lines, 22 characters per line.

Note 3: Requires PDA manufacturer's serial interface cable.



- NOTES:
1. ACTUATOR CAN BE MOUNTED IN ANY POSITION.
 2. PROVIDE ADEQUATE CLEARANCE AT ALL ACCESS COVERS FOR SERVICING AND ADJUSTMENTS.
 3. WIRING DIAGRAM IS LOCATED ON THE INSIDE OF THE TERMINAL BOARD COVER.

10260S INSTALLATION
 MODELS: 10261S, 10262S, 10264S, 10266S,
 10267S, 10268S, 10269S

Outline and Dimensions of 10261S, -62S, -64S, -66S, -67S -68S and -69S Actuators

Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.** Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

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For More Information

Learn more about how Honeywell's HercuLine10260S Smart Actuator can operate at process efficiency and minimal downtime, visit our website www.honeywell.com/ps/hfs or contact your Honeywell account manager.

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