

# Herculine Electric Actuator Solutions



ENGINEERED FOR EXCEPTIONAL RELIABILITY,  
ACCURATE POSITIONING AND LOW MAINTENANCE

## Herculine Electric Actuator Solutions for Dampers and Valves

**Honeywell**

# *Electric Actuators – HercuLine® Actuators are Smart by Design*

## **Easy to Start-Up**

Programmable electronics and the convenience of HercuLink™ Palm™ PDA configuration and calibration make it easy to get started.

- Simple programmable electronics—allow easy configuration
- Local Operator Interface (display and keypad)—facilitates local set-up and calibration
- RS485/Modbus RTU Communication—enables plant-wide integration & communication access to all actuator parameters and ease of networking with other Honeywell control products for a complete control solution
- HART Communication—enables HART users to integrate Herculine actuators into HART based control & maintenance networks. (available Q1 2005)
- Programmable Relay Outputs—assigns alarm, diagnostics or position
- HercuLink™ Palm™ PDA Configuration Software—Configuration can be done anywhere.

## **Easy to Operate**

Once calibrated, the HercuLine™ Smart Actuators work to make process control a breeze.

- Non-contact position sensing—provides high repeatability (0.2% of span), increased accuracy, and low non-linearity for higher quality

- Precise & responsive control—reduces dead time and overshoot as it starts and stops almost instantaneously
- Self locking/self releasing gear train—eliminates hunting, prevents overshoot, and enables bumpless position transfer

## **Easy to Own**

Increased reliability reduces the cost of ownership

- Embedded information—eliminate nuisance shut-downs with proactive maintenance
- Non-intrusive configuration—prevents contamination as the cover does not have to be removed after initial configuration
- Non-Contact Position Sensing—eliminates high maintenance associated with slidewire position sensing
- No-Burnout motor—ensures that the actuator is available for control 100 percent of the time and eliminates stall damage
- Rugged gear train—provides years of trouble free service with simple efficient steel spur gear initial drive with heavy-duty bronze worm reduction final drive
- Brakeless non-backdrive design—eliminates friction brake wear while preventing drift under live load or overshoot

### *Simplifies Maintenance*

#### **Embedded Information including:**

- Accumulated stall time
- Hi/Lo Temp exceeded
- Total travel
- Number of motor starts
- Motor starts in a region
- and more...

### *Simplifies Configuration*

#### **Programmable features including:**

- Reverse/direct acting
- Failsafe on loss of position sensor
- Deadband
- Failsafe on loss of signal
- Input filter
- Input characterization
- Split range
- Alarm outputs
- and more...

### *Simplifies Process Monitoring*

#### **Programmable Output Relays Assignable to:**

- Hi/Lo Temperature
- Stall
- Out of automatic
- Input signal failure
- Position sensor failure
- and more...





## HercuLine Electric Actuators

Honeywell's HercuLine Electric Actuators are engineered for exceptional reliability, accurate positioning, and low maintenance. Designed for very precise positioning of dampers and quarter-turn valves, they perform especially well in extremely demanding environments requiring continuous duty, high reliability, and low maintenance. With non-contact sensing, the maintenance problems and unexpected shutdowns associated with slidewires and potentiometer wear are eliminated.

## HercuLine Smart Actuators

Honeywell's Smart actuators incorporate all of the quality and reliability features of the HercuLine actuators with the added benefits of microprocessor-based electronics. These benefits make it easier to install, set up and commission the actuator, while allowing you to monitor the health parameters for proactive maintenance planning.

- HART or RS485/Modbus communications for remote access
- Programmable:
  - Alarm and relay outputs
  - Characterization, failsafe functions, dead-band, and filtering
  - Direction of rotation
- Diagnostic Parameters:
  - Maximum Hi and Lo temperature
  - Stall and accumulated stall time
  - Total travel

## HercuLink™ Palm™ Software Lowers Ownership Cost

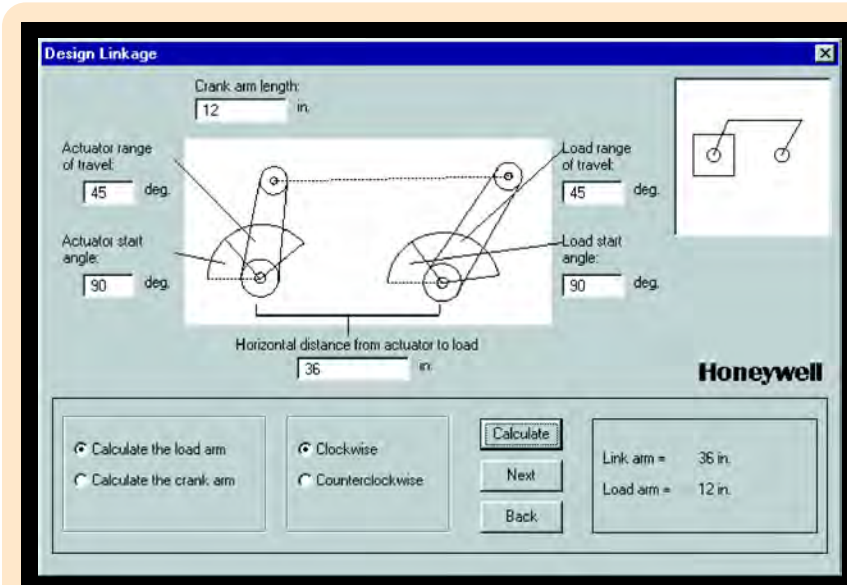
HercuLink PDA software enables access to programming and communication functions available as standard with the HercuLine 2001, 2002, 10260S and 11280S actuators without the added expense of the local keypad and display HMI. Using a Palm PDA and HercuLink software and a RS232/485 converter you can configure, calibrate and access information locally or remotely to the actuator.

### Using HercuLink™ software, the PDA may be used:

- As a modbus master device to send/receive information and control the actuator
- To store setup configuration for download to the actuator
- To download information to a PC in CSV format that has been uploaded to the PDA
- Use your Palm PDA for Calibration, Configuration and Maintenance data
- Eliminates local display and keypad

## HAL (Honeywell Actuator Linkage software)

Helps you size, select and install your Honeywell actuator. The software lets you choose the actuator and design the linkage that best fits your application.



Honeywell Actuator Linkage software (HAL)



HercuLink Palm Software

## *Electric Actuators – HercuLine® Actuators are Smart by Design*



### **HercuLine® 2000: The Basic Motor Unit designed for:**

- 50 to 400 in.lb. (6-45 N-M) Torque
- On/Off Control
- Position Proportional Control
- Self locking/releasing gear train
- 90 degree and 150 degree adjustable stroke
- 6 to 75 sec. stroke speed at 150 degree/60 Hz.



### **HercuLine® 2001: All the features of HercuLine 2000 plus:**

- Digital, programmable electronics
- Current or voltage remote setpoint control
- Optional local Display & Keypad
- Current, voltage, digital output
- Modbus RTU communications
- HART Communications
- Herculink™ Palm™ PDA software compatible
- Optional programmable relay outputs



### **HercuLine® 2002: All the features of HercuLine 2001 plus:**

- Non-contact position sensing
- Standard features:
  - Programmable relays
  - Auto/Manual switch

### **Use HercuLine® 2000 Series Actuators to position:**

- Dampers
- Butterfly valves
- Rotary stem valves
- and more...

HercuLine actuators offer high reliability and low maintenance for demanding environments. Rugged construction and continuous duty motors reduce overall maintenance costs and eliminate unplanned outages. These features combined with state-of-the-art electronics ensure accurate and repeatable performance over the life of the actuator.

- Non-contact position sensing
- Repeatability 0.2% of span
- Fail in place on power loss
- 10 to 60 second stroke time for 90° travel

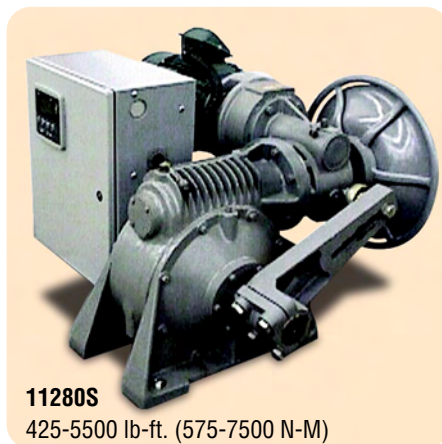




## Electric Actuators – HercuLine® Actuators are Smart by Design



**10260S**  
10-300 lb.-ft. (14-400 N-M)



**11280S**  
425-5500 lb.-ft. (575-7500 N-M)



### HercuLine® 10260 & 11280 Actuators is the easy choice for:

- Gas and air valves
- ID/FD fan inlet damper
- ID/FD fan shutoff damper
- Burner tilt
- Superheated over-fire air
- Coal mill damper
- Superheat damper
- Reheat damper
- Gas recirculation damper
- Bag house dampers
- Fuel/airflow control
- Primary/Secondary air damper
- Penthouse damper
- ID fan speed coupling
- Fd fan speed coupling
- Boiler feed pumps
- Superheat spray valves
- Reheat spray valves
- Cooling tower valve
- Windbox dampers

### HercuLink™ Palm™ Software Lowers Cost of Ownership

Optional HercuLink PDA software enables access to programming and communication functions using RS485/Modbus communications that is standard with the Herculine 2001, 2002, 10260S and 11280S (without the added expense of the local keypad and display HMI). Using a Palm PDA, HercuLink software and a RS232/485 converter you can configure, calibrate and access actuator information.

### Using HercuLink™ software, the PDA may be used:

- As a modbus master device to send/receive information and control the actuator
- To store setup configuration for download to the actuator
- To download information to a PC in CSV format that has been uploaded to the PDA

### HART Communications:

Optional HART Communications protocol capability provides access to actuator configuration, calibration and maintenance information.



# Condensed Specifications

	2000	2001/2002	10260	11280
PHYSICAL				
Weight	25 lbs. (11.36 kg.)	27 lbs. (12.27 kg.)	45 lbs. (18 kg.)	300 to 600 lbs. (132 to 272 kg.)
Operating Temperature	-40 to 185 °F (-40 to 85 °C)	-40 to 170 °F (-40 to 75 °C)	-20 to 170 °F 10260A 185 °F (-30 to 75 °C) 10260A 85 °C	-20 to 150 °F (-30 to 65 °C)
Relative Humidity	Full operable over a range of 0-99% R.H. non-condensing			
Output Torque	50 to 400 in.lb. ( 6 to 45 N-M )	50 to 400 in.lb. ( 6 to 45 N-M )	10 to 300 lb.ft. ( 14 to 400 N-M )	425 to 5500 lb.ft. ( 575 to 7500 N-M )
Full Travel Stroke Time 60 HZ 50 HZ	6 to 75 sec./150 deg. 7.5 to 90 sec./150 deg.	6 to 75 sec./150 deg. 7.5 to 90 sec./150 deg.	10 to 60 sec./90 deg. 12 to 72 sec./90 deg.	10 to 60 sec./90 deg. 10 to 60 sec./90 deg.
ELECTRICAL				
Power Input, 50/60 Hz (single phase unless noted)	100 to 130 Vac 200 to 240 Vac			<1500 lb.ft. 2000 N-M, 120/240 Vac 208/200-240/380-480/575 3 phase
Motor	Instant start/stop, non-coasting, non-burnout, continuous duty. Stall for 100 hours			Inverter rated, 3 phase continuous duty
Loss of Power	Actuator stays in place			
Local Auto/Man Switch	Optional			
ACTUATOR WITH POSITIONER				
Sensitivity	NA	0.2% to 5.0% of span		
Hysteresis	NA	Less than 0.4% of scale		
Repeatability	NA	0.2% of span		
OTHER				
Communications	NA	HART/Modbus RTU	HART/Modbus RTU with Smart models	
HercuLink™ software	NA	Yes		



Honeywell offers a complete portfolio of products and solutions for process and machine control applications, including

controllers, recorders, transmitters, actuators, smart sensors, and analytical instruments. To learn more about these offerings and how they can help your organization achieve breakthrough results, contact your local Honeywell representative, or contact us at the following phone numbers:

U.S.A.: 1-800-784-3011      France: 33 1 60 19 80 75  
 Canada: 1-800-461-0013      Italy: 39 02 9214 6503  
 UK: 44 1344 655251      Spain: 34 91313.61.00  
 Germany: 49 69 8064-336      Asia/Pacific: 65 6355 2828  
 Latin America: 1-305-805-8188

## 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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