

| WOODWARD ACTUATOR AND VALVE SELECTOR | | | | | | | |
|--|---|--|--|---|--------------------------------------|--------------------------------------|---|
| Product Type | Output | Input Power | Special Driver | Input Control Signal | Prod Spec | Man | Comments |
| Steam Turbine Actuators | | | | | | | |
| TG Actuator | Rotary, 37 Deg 17.5 Ft-Lb Max | 1100 to 6000 rpm, Self-contained oil sump | None-Connects directly to controller | 20-160 mA, Proportional See APD | 04044 | 04045 | |
| EG Actuator | Rotary, 37 Deg 10 Ft-Lb Max | 1500 to 4000 rpm, 100 psi external supply oil | None-Connects directly to controller | 20-160 mA, Proportional See APD | 82516 (EG-3P/ 6P/ 10P) | 82560, 82566 | |
| UG Actuator | Rotary, 37 Deg 20 Ft-Lb Max | 375 to 1500 rpm, Self-contained oil sump | None-Connects directly to controller | 20-160 mA, Proportional See APD | 37511 | 37512 | |
| UG40 Actuator | Rotary, 37 Deg 63 Ft-Lb Max | 350 to 1300 rpm, Self-contained oil sump | None-Connects directly to controller | 20-160 mA, Proportional See APD | 37516 | 37515 | |
| PG Actuator | Rotary, 30 Deg 478 Ft-Lb Max | 200 to 1600 rpm, Self-contained oil sump | None-Connects directly to controller | 20-160 mA, Proportional See APD | 36635 | 36637 | |
| PGPL Actuator | Rotary, 30 Deg 58 Ft-Lb Max or 1"linear | 1500 rpm Max, Self-contained oil sump, 18-32 Vdc to driver | 8251-451 Use only with PGPL Actuators | 0-200 mA, Proportional See APD | 37520 | 37519 | |
| TM25/200 Proportional Actuator | Linear, 1" Max stroke 2400 Lb Max; TM55 = Rotary, 45 Deg, 55 Ft-Lb, Max | 80 to 1200 psig external supply oil, TM55 = 400 to 1000 psig external supply oil | None-Connects directly to controller | 20-200 mA, Proportional See APD | 82451 (TM 25/200) 82599 (TM55) | 82450 (TM 25/200) 82400 (TM55) | |
| TM55 Integrating Actuator | Rotary, 45 Deg, 55 Ft-Lb, Max, position feedback = redundant RVDT/LVDT | 400 to 1000 psig external supply oil | Requires an integrating driver | .-/200 mA Integrating, See AID | 82767 | 82768 | |
| CPC Current to Pressure Converter "Control Valve" | 14.5 to 203 psi control oil | 250 psi external oil Max, 18-32 Vdc | None-Connects directly to controller | 4-20 mA, Proportional See APD | 85202 | 89543 | |
| ProAct Analog Actuator Used primarily on Engine Applications | Rotary, 75 Deg, 2.5 to 5 Ft-Lb | 18-32 Vdc, 14 A Max | None-Connects directly to controller, ProAct has an internal driver | PWM:7-32 V, 150- 3199 Hz; 20-180 mA, 4-20 mA, 0.5- 4.5 Vdc, Proportional | 03231 | 26147 | |
| ProAct Digital Plus Actuator Used primarily on Engine Applications | Rotary, 75 Deg, 5 to 27 Ft-Lb | 18-32 Vdc, 20 A Max | None-Connects directly to controller, ProAct has an internal driver | PWM: 7-32 V, 100- 3000 Hz; 20-180 mA, 4-20 mA, and J1939 over CAN, Proportional See APD | 03231 | 26112 | |
| Hydraulic Amplifier "Actuator" | Linear, 3" Max stroke, 7.25 " bore Max, 12,250 Lb force Max | 100 to 500 psi external supply oil | None-Connects directly to controller | 20-160 mA, Proportional, There are some 40-320 mA dual coil versions See APD | 89007 | 89015 | |
| EHPC Electrohydraulic Power Cylinder "Actuator" | Linear, 12" Max stroke, 10 " bore Max, 19,000 Lb force Max position feedback = 4 to 20 mA or 1 to 10 Vdc | 80 to 250 psi external supply oil | Requires an integrating driver | .-/100 mA w/ 15 mA null, 0-200 mA w/ 100 mA null, Integrating See AID | 85189 | 85186 | Can use the EHPC's LDT or position feedback from the valve's position |
| EML 100 | Linear, 1.5" Max stroke, 100 Lb force, feedback = Three turn Resolver (single or dual) with motor resolver | 3 phase 24 V motor drive signal from driver to actuator, 18 to 32 Vdc, 20 A to driver | 8200-177 Digital driver with single resolver 8200-176 Digital driver with dual resolver | 4-20 mA, RS-485 (RT SI/O), Proportional See APD | 40186 | 40183 | 3 phase 24 V drive signal with resolver for motor commutation along with resolver excitation and single or dual position feedback. Uses RS-232 DIP (driver interface program) for setup |

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| Woodward Electronic Controls: 723, 733, 828, Peak 150, 2301-D family, 505, 505E, 505DE, 505CC-2, Atlas 8273-2xx/4xx, SPC 8200-224/225, MicroNet cards 5501-432 +/-245mA adjustable 5464-544 0-200 mA | | | | APD Analog Proportional Drivers | | | Use a MicroNet 2 channel controller or 4 channel proportional card with no position feedback, Atlas (except older versions 8273-0xx) or an SPC |
| MicroNet cards 5501-432 +/-245mA adjustable, SPC 8200-224/226 | | | | AID Analog Integrating Drivers | | | Use a MicroNet 2 channel controller with integrating output and LVDT/RVDT excitation or an SPC |
| SPC Servo Position Control | ./-250 mA, +/-100 mA, +/-50 mA, +/-10 mA, 0-250 mA, 0-100 mA, 0-50 mA, 0-25 mA feedback LVDT/RVDT or 4-20 mA | 18-32 Vdc to driver | 8200-224 (standard) 8200-225 (marine) 8200-226 Updated | 4-20 mA, Devicenet over CAN, Position demand signal. | 03254 | 26236 | Uses a proportional input signal for use with proportional or integrating actuators. Replaces the old DRFD, in most applications. Configurable through a RS-232 SPC Service Tool |
| Gas Turbine Valves | | | | | | | |
| Liquid Fuel Applications | | | | | | | |
| LQ3/LQ25/ LQ25T Liquid Valves with single turn resolver | 80 to 26,000 lb/hr flow w/1200 psig inlet Max | 18-32 Vdc, 20 A to driver | 9907-135 Analog driver with single resolver | 4-20 mA | 40174 | LQ3=26087, LQ25=26161, LQ25T=26162 | LAT (Limited Angle Torque) Motor drive signal with single Resolver excitation and feedback |
| LQ25 Liquid Valves with three turn resolver | 100 to 26,000 lb/hr flow w/1400 psig inlet Max | 18-32 Vdc, 20 A to driver | 8200-314 Digital driver with dual resolver for GAP 3.0 and above and 8200-170 for use with GAP 2.08 | 4-20 mA, RS-485 (RT S/I/O) | 40179 | 26162=valve 26159=driver | LAT Motor drive signal with a dual Resolver excitation and feedback. Requires a 3 speed resolver, For GAP 3.xx; typically used on DLE applications. Can also be used in single resolver applications Uses RS-232 DIP (driver interface program) for setup |
| 1907/TM55 Proportional | 150 to 25,000 lb/hr w/2500 psig inlet Max | 400 to 1000 psig external supply oil | None-Connects directly to controller | 20-200 mA, Proportional See APD | 40125 | 45002 | |
| 1907/TM55 Integrating | 150 to 25,000 lb/hr w/2500 psig inlet Max | 400 to 1000 psig external supply oil | Requires an integrating driver | ./-200 mA Integrating, See AID | 40125 | 45002 | |
| 1907/EM35 with single resolver | 150 to 25,000 lb/hr w/2500 psig inlet Max | 18-32 Vdc, 25 A to driver | 9907-127 Digital driver with single resolver 9907-067 Analog driver with single resolver | 4-20 mA, Proportional See APD or signal from a MicroNet PCM (position control module) | 40158 | 40159 = valve 40161 = digital driver 40152 = analog driver | 3 phase motor field director and tach for commutation signal with single resolver excitation and single feedback hard overcurrent shutdown, Non-preferred and Not for new applications Not CE |
| 1907/EM35 with dual resolver | 150 to 25,000 lb/hr w/2500 psig inlet Max | 18-32 Vdc, 25 A to driver | 9907-126 Digital driver w/ dual resolver | 4-20 mA, Proportional See APD or signal from a MicroNet PCM (position control module) | 40158 | 40159 = valve 40161 = digital driver | 3 phase motor field director and tach for commutation signal with dual resolver excitation and single feedback |
| LSOV25 Liquid Shutoff Valve 25 | 30,000 lb/h, 1200psig max, closes in 0.1 s | 24Vdc or 125Vdc nominal, on/off 20 W nominal | None-Connects directly to controller | On/Off Command | 40169 | 40148 | |
| Water Injection Applications | | | | | | | |
| 3151A Water Valve with EML100 Actuator | 78 US gal/min max. at 350 to 1500 psig | 18-32 Vdc, 20 A to driver | 8200-177 EM 24V Digital driver w/ single resolver 8200-176 EM 24 V Dig. dr. w/ dual resolver | 4-20 mA, RS-485 (RT S/I/O) | 40187 | 40181 = valve 26159 = driver | 3 phase 24 V drive signal w/ resolver for motor commutation along with resolver excitation & single or dual position feedback. Uses RS-232 DIP (driver interface program) for setup |
| 3151A Water Valve with TM40 Actuator Proportional | 78 US gal/min max. at 350 to 1500 psig | 400-1200 psig hydraulic oil, 5.2 gal/min max | None-Connects directly to controller | 20-160 mA, Proportional See APD | 40119 | 40120 = valve | RVDT not required but used for confirmation |

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| Gas Fuel Applications | | | | | | | |
| Electric SonicFlo Gas Valve (ESV) | 1200 Cg at 450 psig, or 2000 Cg at 300 psig with Class IV shutoff | 90 to 150 Vdc, 20 A | 8200-216 EM 120 V Digital Driver | 4-20 mA, RS-485 (RT SI/O) | 03287 | 26177 = valve 26159 = driver | 3 phase 120 V drive signal with resolver for motor commutation with resolver excitation and single position feedback. Uses RS-232 DIP (driver interface program) for setup |
| Hydraulic SonicFlo Gas Valve | 1200 Cg at 450 psig, or 2000 Cg at 300 psig with Class IV shutoff | 1200 to 1700 psig hydraulic oil. Triple Coil from GE controller | None-Connects directly to controller | Integrating control signal form a GE controller. +/- 8 mA with +.8 mA null control signal | 03285 | 26094 | Dual Coil LVDT feedback to GE controller. |
| Electric Globe Valves (EGV) | 1060 psig max. with Class IV shutoff and min position switch | 90 to 150 Vdc, 20 A | 8200-216 EM 120 V Digital Driver | 4-20 mA, RS-485 (RT SI/O) | 03314 | 26186 = valve 26159 = driver 26180 = driver for Rolls Royce | 3 phase 120 V drive signal with resolver for motor commutation with resolver excitation and single position feedback. Uses RS-232 DIP (driver interface program) for setup |
| Hydraulic Globe Valve | 550 psig max. with Class IV shutoff | 750 to 900 psig hydraulic oil | Integrating control signal form a Siemens controller. | Dual Coil from controller, +/-30 mA control signal | 03314 | 26170 | Single Coil DCDT feedback to controller |
| Stop Ratio Valve | Fisher Type Vee-Ball Design V300 or V300 Series B HD Metal | 1200 to 1700 psig hydraulic oil. Triple Coil from GE controller | Integrating control signal form a GE controller. | Integrating control signal form a GE controller. +/- 8 mA with +.8 mA null control signal | | 26093 = valve 26230 = valve with elec. trip. | Dual Coil LVDT feedback to GE controller |
| GS3 | 10 to 5000 lb/hr, 100 to 750 psig | 18-32 Vdc, 25 A to driver | 9907-135 GS3/LQ Analog Driver with single resolver | 4-20 mA | 45021 | 40146 = valve 40175 = driver | LAT Motor drive signal with single Resolver excitation and feedback. Single speed resolver only. |
| GS10 | 25 to 15,000 lb/hr, 100 to 750 psig | 18-32 Vdc, 25 A to driver | 9907-186 GS10 Analog Driver with single resolver feedback | 4-20 mA | 45021 | 40167 | Motor drive signal with Resolver excitation and single feedback. |
| GS6 with single or dual position resolver GS16 with single position resolver | GS6 10 to 15,000 lb/hr, 100 to 759 psig GS16 50 to 30,000 lb/hr, 50 to 750 psig | 18-32 Vdc, GS6 = 7 A to driver GS6 = 7 A to driver | No external driver needed. Internal valve actuator connects directly to controller with proportional output. | 4-20 mA, Devicenet over CAN to an internal driver to control a LAT motor | GS6 = 03256 GS16 = 03284 | GS6 = 26171 GS16 = 26228 | Uses RS-232 for set-up Note: The RS-485 connections shown in the manual are not active. |
| 3103/EM35 with single resolver NOT FOR NEW APPLICATIONS | 50 to 40,000 lb/hr, 900 psig Max | 18-32 Vdc, 25 A to driver | 9907-127 EM35 Digital driver with single resolver feedback 9907-067 EM35 Analog driver with single resolver feedback | 4-20 mA or signal from a MicroNet PCM (position control module) | 40156 | 40154 = valve 40161 = digital driver 40152 = analog driver | 3 phase motor field director and tach for commutation signal with single resolver excitation and single feedback hard overcurrent shutdown, Non-preferred and Not for new applications Not CE |
| 3103/EM35 with dual resolver NOT FOR NEW APPLICATIONS | 50 to 40,000 lb/hr, 900 psig Max | 18-32 Vdc, 25 A to driver | 9907-126 EM35 digital driver with dual resolver feedback | 4-20 mA or signal from a MicroNet PCM (position control module) | 40156 | 40154 = valve 40161 = digital driver | 3 phase motor field director and tach for commutation signal with single resolver excitation and single feedback hard overcurrent shutdown, Non-preferred and Not for new applications Not CE |
| 3103/EM35MR Gas Valve with single resolver feedback MR = motor resolver | 50 to 40,000 lb/hr, 900 psig Max | 18-32 Vdc, 37 A to driver | 8200-177 EM 24V Digital Driver with single resolver excitation and feedback | 4-20 mA, RS-485 (RT SI/O) | 03209 | 40185 = valve 26159 = driver | 3 phase 24 V drive signal with resolver for motor commutation along with resolver excitation and single position feedback Uses RS-232 DIP (driver interface program) for setup |
| 3103/EM35MR Gas Valve with dual resolver feedback MR = motor resolver | 50 to 40,000 lb/hr, 900 psig Max | 18-32 Vdc, 37 A to driver | 8200-176 EM 24V Digital Driver with dual resolver excitation and feedback | 4-20 mA, RS-485 (RT SI/O) | 03209 | 40185 = valve 26159 = driver | 3 phase 24 V drive signal with resolver for motor commutation along with resolver excitation and dual position feedback Uses RS-232 DIP (driver interface program) for setup |

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| 3103/TM55 Proportional with single resolver | 50 to 40,000 lb/hr, 900 psig Max | 400 to 1000 psig external supply oil | None-Connects directly to controller | 20-200 mA, Proportional See APD | 40106 | 40104 | |
| 3103/TM55 Integrating with single resolver | 50 to 40,000 lb/hr, 900 psig Max | 400 to 1000 psig external supply oil | Requires an integrating driver | .-/-200 mA Integrating, See AID | 40106 | 40103 | |
| 3171/EM35MR Gas Valve with single or dual resolver feedback | 25 to 20,000 lb/hr, 500 psig Max. self cleaning metering port | 18-32 Vdc, 37 A to driver | EM 24V Digital Driver with single (8200-177) or dual (8200-176) resolver excitation and feedback | 4-20 mA, RS-485 (RT SI/O) | | 26118 = valve 26159 = driver | |
| 3171/EM35 Gas Valve with single resolver NOT FOR NEW APPLICATIONS | 25 to 20,000 lb/hr, 500 psig Max. self cleaning metering port | 18-32 Vdc, 25 A to driver | 9907-127 Digital driver with single resolver 9907-067 Analog driver with single resolver | 4-20 mA, Proportional See APD or signal from a MicroNet PCM (position control module) | 40158 | 40153 = valve 40161 = digital driver 40152 = analog driver | 3 phase motor field director and tach for commutation signal with single resolver excitation and single feedback hard overcurrent shutdown, Non-preferred and Not for new applications Not CE |
| 3171/TM-55 (Integrating) Gas Valve | 25 to 20,000 lb/hr, 500 psig Max. self cleaning metering port | 400 to 1000 psig external supply oil | Requires an integrating driver | .-/-200 mA Integrating, See AID | | 40115 | |
| Swift Valves | 50 to 695 lb/hr, 85 to 300 psia | 18-32 Vdc, 48 W to driver | Swift Valve Driver which provides stepping motor drive signal | 4-20 mA, Devicenet over CAN, and PWM 500-2kHz | 03252 | 26202 | Configured on the test stand to work with a particular valve, i.e. single or dual valves and user interface. |
| Gas Shutoff Valve GSOV25 (-20 to +150 C) and GSOV25HT (-20 to +177 C) | Up to 40,000 lb/hr, 900 psig, with Class VI shutoff | Internal gas pressure | None-Connects directly to controller | 24 or 125 Vdc (On/Off) 10 W nominal | 40176 = GSOC25 03286 = GSOV25 HT | 40172 = GSOC25 26190 = GSOV25 HT | |



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