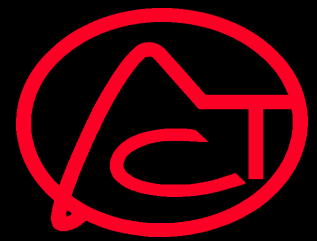


# Mini-Catalog of CONTROL INTERFACES SIGNAL TRANSDUCERS and SIGNAL CONDITIONERS



*For Building Automation,  
HVAC, Energy Management,  
and Process Control Systems*



*Analog Signal Isolation,  
120 VAC Powered*



*Analog to  
Pneumatic*

## LIGHTING CONTROLS













*RS485 Controlled  
Lighting Contactor Interface*

## LONWORKS NODES













*Pneumatic Node*

# INTERFACES

	INPUT	OUTPUT
	<b>4N1.1</b> <b>Four Analog Inputs to One Output.</b> Input ranges & impedance: 0-5V or 0-10V@100KΩ, or 0-20 mA@500Ω. Output ranges: 0-10 VDC or 0-20 mA. Power: 24 VAC@110 mA max. or 24 VDC@50 mA max. Size: 4.375"L x 4.0"W x 1.0"H. <b>RS485</b> model available.	<b>ANALOG-</b> Average, High, Low of 4 inputs or Difference of 2
	<b>AAR</b> <b>Analog to Two High and Low Trip Level Relay Outputs.</b> Input ranges and Impedance: 0-12 VDC/1MΩ, 0-24 VDC/20 KΩ, 0-20 mA/499Ω. Output: Two (2) Form C relays, rated 10 amps@120 VAC. Power: 24 VAC or 24 VDC@45 mA max. Size: 3.25"L x 2.41"W x 1"H.	<b>TWO RELAYS-</b> High and Low Trip Level Outputs
	<b>AFP</b> <b>Analog to Floating Point.</b> Jumper selectable inputs: 0-5, 1-5, 0-10, 2-10, 0-15, 3-15 VDC, 0-20 & 4-20 mA. Output: Floating Point (digital UP/DOWN). Selectable rates of change: Version 1 - 30, 60 or 90 sec., Version 2 - 120, 150 or 180 sec., Version 3 - 18, 75, 360 sec. electrically isolated output, no wrap around. 24 VAC/24 VDC +/- 10%	<b>FLOATING POINT-</b> Output Isolated
	<b>AIM1</b> <b>Analog Input with Optical Isolation to Analog Output (1:1 Ratio).</b> Input ranges & impedance: 0-5, 0-10 VDC@20,000Ω, and 0-20 mA@250Ω. Output ranges & impedance: 0-5, 0-10 VDC@5000Ω, and 0-20 mA@500Ω. Power: 24 VAC@100 mA max. Size: 3.25"L x 3.425"W x 1.5"H.	<b>ANALOG-</b> Optically Isolated
	<b>AIM2</b> <b>Analog Input with Optical Isolation to Analog Output (Re-scales &amp; Limits Output).</b> Input ranges & impedance: 0-5, 1-5, 0-1, 0-10, and 2-10 VDC@9500Ω, 0-1, 0-20 & 4-20 mA@250Ω. Output: Same except for 0-1 VDC@5000Ω, & 0-1 mA@250Ω. Power: 24 VAC @200 mA max. Size: 4.6"L x 3.25"W x 1.5"H.	<b>ANALOG-</b> Isolated, Re-scale & Limit Output.
	<b>AIM3</b> <b>Analog Input with Optical Isolation to Analog Output.</b> Input ranges & impedance: 0-5, 1-5@5MΩ or greater., 0-10 and 2-10 VDC@20,000Ω. 0-20 and 4-20 mA@249Ω. Output: Same with impedances of 500, 1000 and 750Ω respectively. Power: 120 VAC@50 mA max. Size: 3.25"L x 4.0"W x 1.25"H. Accuracy: <math>\leq 1\%</math> output.	<b>ANALOG-</b> Isolated, Re-scale & Limit Output.
	<b>ARM</b> <b>Analog Current or Voltage Re-scaling Module.</b> Re-scales/ reverses analog signal. Input: 0-35 VDC@1MΩ, 0-44 mA@250Ω. Output: 0.25-20 VDC@5000Ω, 1-44 mA@750Ω. Power: 24 VDC or 24 VAC@200 mA. Size: 3.69" L x 2.171" W x 1.0" H.	<b>ANALOG-</b> Re-scale Reverse
	<b>ARM2</b> <b>Analog Current or Voltage Re-scaling Signal Splitter.</b> Re-scales/ reverses analog signal. Input: 0-35 VDC@1mΩ, 0-44 mA@249Ω. Output: 0-20 mA@750Ω, Gain: 1-20 times, Attenuation: 0-100%, Offset: +/-0.25-20 volts. Power: 24 VDC or 24 VAC@200 mA. Accuracy: <math>\leq 1\%</math> output range. Size: 3.69" L x 2.171" W x 1.0" H	<b>DUAL 4-20 MA-</b> Re-scale Reverse
	<b>ASA</b> <b>Analog Current Amplifier.</b> Increases analog signal Current (2 amps or 30 watts output). Input: 0-20 VDC@20,000Ω, 0-20 mA@250Ω. Output: 0-20 VDC@10Ω min, Gain: 1-20 times. Offset: Zero, Positive or Negative. Power: 24 VDC or 24 VAC@200 mA. Size: 3.25"L x 2.905"W x 1.575"H. Accuracy: 2% full scale.	<b>ANALOG-</b> Boost Current Re-scale Reverse
	<b>ATL</b> <b>Analog Current or Voltage to Four Adjustable Trip Level Relay Output.</b> Input ranges & impedance: 0-12 VDC@10KΩ, 0-24 VDC @20KΩ, and 0-20 mA@500Ω. Output: Four (4) form C relays. Dead band: 3% standard (1% and 10% optional). Power: 24 VAC or 24 VDC@180 mA max. Size: 3.25" L x 2.75" W x 1.5 " H	<b>FOUR RELAYS-</b> Trip Level Adjustable

# INTERFACES











# INTERFACES

	INPUT	OUTPUT
	<b>Analog Current or Voltage to PWM*</b> Output. Input: 0-10 VDC@1MΩ or 4-20 mA@250Ω. Output: 0.1-25 sec., 0.02-5 sec., or 0.59-2.93 sec. DIP switch selectable for 1-11 & 0-21 sec. range for York™ chiller (Custom PWM ranges available). Power: 24 VDC or 24 VAC@50 mA. Size: 2.75"L x 2.25"W x 1"H.	<b>PWM-</b> Pulse Width Modulated
	<b>Floating Point to</b> Analog Output. Two Digital Inputs: Contact closure, transistor, or triac. Trigger Level: 5-24 VDC or 9-26.4 VAC (50/60 Hz). Output: 10 presets from 0-1 VDC to 0-20 VDC and 0-20 mA. Rates of Change: 5 to 360 seconds. Power: 24 VAC or 24 VDC (50/60 Hz) @50 mA. Size: 3.75" L x 2.25" W x 1.15" H	<b>ANALOG-</b> Voltage or Current
	<b>PWM* Input to</b> 4 or 8 Addressable Relays. Inputs: Relay, transistor, or triac. Pulse resolution: .5 sec. or 1 sec. Trigger Level: 5-24 VAC or VDC, 20 mA max. Output: 4 or 8 - 2 amp Form C relays w/ Hand/Off/ Auto jumpers, switches optional, Power: 24 VAC or 24 VDC@200mA max. Novar/Solidyne versions also. Size: 4.825" L x 3.225" W x 1.0" H	<b>RELAYS-</b> 4 or 8 Addressable
	<b>PWM*, Analog, Floating Point to</b> Resistance Output. Input: .1-10 sec., 0-10 sec. duty cycle, 0.023-6 sec., 0.02-5, 0.59-2.93, and 0.1-25 sec., Rates of change: 30 -240 sec., Analog: 0-5, 1-5, 0-10, 2-10, 0-15, 3-15 VDC, 0-20 & 4-20 mA. Output: 12 ranges, 0-135Ω to 0-40KΩ & Custom. Power: 24 VDC/VAC@250mA. Size: 4.75"L x 3.25"W x 1"H	<b>RESISTANCE-</b> 0-135Ω to 0-40KΩ and custom ranges
	<b>Analog, Floating Point, &amp; PWM* to</b> Proportional Resistance Output. Inputs-Pulse: 0.02-5, 0.59-2.93, and 0.1-25 sec. Digital Floating Point: 5, 15, 90 sec. rates of change, Analog: 0-5, 1-5, 0-10, 2-10 VDC, & 0-20, 4-20 mA. Output: 0-135Ω, 32 step resolution. Power: 24 VDC or 24 VAC@250mA. Mounts on actuator. Size: 2.25" L x 3.5" W x 1.5" H.	<b>RESISTANCE-</b> 0-135Ω
	<b>Analog to</b> Pneumatic Output. Input: 0-5 VDC, 0-10 VDC, and 0-15 VDC@Infinite Ω or 4-20 mA@250Ω. Output: 0-20 psig. Feedback: 0-5 VDC = selected output. Power: 24 VAC or 24 VDC (50/60 Hz) @160 mA. Valved exhaust (EPC2), bleed-type in 41 scim (EPC) , & dual valve <b>Fail-Safe</b> model (EPC2FS). Aluminum manifold.	<b>PNEUMATIC-</b> Jumper Select 0-10 psig 0-15 psig 0-20 psig
	<b>Analog to</b> Pneumatic Output. Input: 0-5 VDC, 0-10 VDC and 0-15 VDC@Infinite Ω or 0-20 mA@250Ω. Output: 0-10, 0-15 and 0-20 psig,. Feedback: 0-5 VDC = selected output. Power: 24 VAC or 24 VDC (50/60 Hz) @180 mA. Controlled exhaust dual valve. <b>Fail-Safe</b> model EPC2GFSB. Aluminum manifold. Rugged painted metal housing.	<b>PNEUMATIC-</b> Jumper Select 0-10 psig 0-15 psig 0-20 psig
	<b>PWM* to</b> Pneumatic Output. Input: 0.1-10, 0.02-5, 0.023-6 or 0-10 sec. duty cycle, 0.59-2.93, 0.1-25.5 sec. or 0-20V phase cut. Trigger: 9-24 VAC/VDC. Output: 0-10, 0-15 psig, 0-20. Manual override. Feedback: 0-5 VDC=range. Power: 24 VDC or 24 VAC@160 mA. Valved exhaust or bleed type at 14, 41 & 73 scim, <b>&amp; Fail-Safe</b> model.	<b>PNEUMATIC-</b> Jumper Select 0-10 psig 0-15 psig 0-20 psig
	<b>Floating Point to</b> Pneumatic Output. Input: Two Digital (relay, triac, or transistor) 9-24 VAC/VDC. Output: Jumper selectable 0-10, 0-15, or 0-20 psig air pressure. Rate of Change: 30, 45, 60, 90 sec., 2, 3, 6, & 8 min. Manual Override. Power: 24 VDC or 24 VAC@4VA. Size: 4.0"L x 3.45"W x 1.875"H. Anodized aluminum manifold.	<b>PNEUMATIC-</b> Jumper Select 0-10 psig 0-15 psig 0-20 psig
	<b>Analog Voltage or Current to</b> Re-scaled Voltage Output. Input ranges and impedance: 0-20V@>100KΩ or 0-20 mA@250Ω. Output range: 0-5 VDC. Gain: 1 to 5 times the input. Attenuation: 50%. Signal offset: 0 to 4 VDC. Power: 24 VAC or 24 VDC@20mA max Size: 2.0"L x 2.25"W x 0.5"H.	<b>ANALOG-</b> Voltage - Re-scaled

# INTERFACES

\* PWM - Pulse Width Modulated








# INTERFACES

	INPUT	OUTPUT
	<b>ISM3</b> <b>Analog Voltage or Current to</b> Re-scaled Low Signal Level Voltage Output. Input ranges & impedance: 0-5 VDC/>10 tera Ω. Output range: 0.050 to 5 VDC@1KΩ. Gain: 1 to 5 times the input. Offset: +/- 0 to 4 VDC. Accuracy .16%. Power: 15 VDC@9.5 mA max. Size: 1.67"L x 2.185"W x 0.6"H.	<b>ANALOG-</b> Re-scaled Low Voltage Signal Level
	<b>ISM4</b> <b>Analog Voltage or Current to</b> Re-scaled Voltage Output. Input: 0-5, 0-10 VDC, or 0-20 mA@500Ω (with resistor) . Output range: 0.5 to 24 VDC. Gain: 1 to 4.8 times the input. Signal offset: -5.0 to 13.5 volts. Attenuation 50% Power: 29.5-35 VAC or 24.7-28.5 VDC @ 9.5 mA max. Size: 1.675"L x 2.185"W x 0.9"H.	<b>ANALOG-</b> Re-scaled Low Voltage Signal Level
	<b>LPR</b> <b>24 VAC to</b> Adjustable VDC Power Regulator. Input ranges: 24 VAC +/- 10%, or up to 40 VDC (DC voltage should be 5V more than expected output). Output ranges: Adjustable from 2 to 25 VDC (35 if 40 VDC input) Current: 1 amp max. Power dissipation: 10 watts. Short circuit protection. Size: 3.25"L x 2.25"W x 1.6"H.	<b>24 VDC-</b> Voltage Adjustable 2 to 25 VDC
	<b>MAO</b> <b>Dual Analog Voltage/Current Adjustable</b> Manual Override. Power: 24 VAC or 24 VDC. Alarms in Manual. Analog Selectable Outputs (Auto): 0-5 VDC, 0-10 VDC, 0-15 VDC, 0-20 mA. Manual Override Alarm Output: 0-24 VDC@2 A max. Two Channels.	<b>ANALOG OVERRIDE-</b> Voltage & Current, Adj.
	<b>MDO</b> <b>Four Channel Digital Manual Override (Maintained).</b> Power: 24 VAC or 24 VDC. Override Input: 0-24 VDC or 0-24 VAC @ 2 A maximum. Override Output: Same as power supply. Manual Position Alarm: Resistive or shorted feedback alarm indicates "in manual mode" to the user. Size: 4.0"L x 4.0"W x 1.250"H. Four Channels.	<b>DIGITAL OVERRIDE</b>
	<b>MPOE</b> Manual <b>Pneumatic Override/Electric.</b> Installs between controller and actuator. Provides control in case of controller malfunction or for system checkout. 20 gauge metal bracket. Power: 24 VDC or VAC +/- 10% @800 mA maximum. Alarm Feedback: N.O. or N.C. contact. Alarm Current 1.2 A maximum. Size 4.0 L" x 3.0" W x 5.0" H.	<b>PNEUMATIC OVERRIDE-</b> Powered
	<b>MPOP</b> Manual <b>Pneumatic Override.</b> Installs between controller and actuator. Provides control in case of controller malfunction or for system checkout. 20 gauge metal bracket. Pressure output 0.5 to 30 psig with multi-turn knob, 0.5 to 30 psig, 2-position pneumatic switch selector for AUTO or MAN. Size 4.0 L" x 3.0" W x 5.0" H.	<b>PNEUMATIC OVERRIDE</b>
	<b>NTS4</b> <b>Floating Point to</b> Pneumatic Output ( <b>Silent Operation</b> ). Input: Two Digital (relay or triac). Output: Jumper selectable 0-10, 5-15, or 0-15 psig air pressure. Rate of Change: 90 seconds. Manual Override. Power: 24 VDC@40 mA or 24 VAC@110 mA. 1% Accuracy@room temperature. Size: 3.25"L x 2.25"W x 1.8"H.	<b>SILENT PNEUMATIC-</b> 0-10, 5-15 or 0-15 psig
	<b>NXP2</b> <b>Analog to</b> Pneumatic Output ( <b>Silent Operation</b> ). Input: 0-5 VDC @5KΩ, 0-10 VDC@10KΩ, 0-15 VDC@7.5KΩ, or 0-20 mA@249Ω. Output: 0-15 psig. Manual Override. Feedback: 0-5 VDC=0-15 psig. Power: 24 VAC or 24 VDC@160 mA. Accuracy: +/-3% @50-100°F Valved exhaust or bleed-type in 14, 41 & 73 scim model.	<b>SILENT PNEUMATIC-</b> 0-15 psig
	<b>PSG</b> <b>Programmable Signal Generator.</b> Hand held (15 oz.), simulates analog or pulse signals w/cable & clips for 24 VDC power and signal attachment. LCD prompts and keypad set output values. Analog 0-10 VDC or 0-20mA (absolute or min/max), all PWM* (absolute, looping, or duty cycle). Size: 2.125" H x 4.01" W x 7.50" L	<b>TEST SIGNALS-</b> Voltage, Current, & PWM

# INTERFACES

\* PWM - Pulse Width Modulated



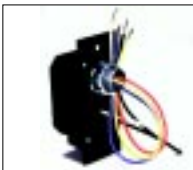


# INTERFACES

	INPUT	OUTPUT	
	<b>PTA</b>	<b>PWM* to</b> Analog Current or Voltage Output. Input PWM (relay, transistor, or triac): 0.1-10 sec., 0.1-25.5 sec., 0.02-5 sec., or 0.59-2.93 sec., 0.023-6 sec., 0-10 sec. duty cycle pulse, and Staefa™ Phase Cut. Flexible Output (Adjustable or Fixed): 0-20 VDC or 0-20mA. Power: 24 VDC (to 35 VDC) or 24 VAC (21.6 to 28 VAC) 50/60 Hz.	<b>ANALOG-</b> Voltage or Current
	<b>PTA2</b>	<b>PWM* to</b> Analog Current or Voltage Output. Input PWM* (relay, transistor, or triac): 0.1-10 sec., 0.1-25.5 sec., 0.02-5 sec., or 0.59-2.93 sec. Output ranges: 0-10 VDC. Power: 24 VDC or 24 VAC@35 mA. Size: 2.2"L x 2.25"W 1.0"H.	<b>ANALOG-</b> 0-10 VDC
	<b>PTP100</b>	<b>100 psig Pressure to</b> Analog Voltage or Current Output. Input: 20-100 psig air pressure. Jumper Selectable Output: 1-5 VDC @250Ω, 2-10 VDC@500Ω, 3-15 VDC, or 4-20 mA@750Ω load impedance. Power: 24 VAC or 24 VDC@50mA max. Size: 3.75"L x 2.25"W x 1.5"H. Aluminum manifold with gauge port.	<b>ANALOG-</b> Voltage or Current
	<b>PTP</b>	<b>Pressure to</b> Analog Voltage or Current Output. Input: 3-15, 3-30 or 0 to -7.5 psig air pressure. Jumper Selectable Output: 1-5 VDC @250Ω, 2-10 VDC@500Ω, 3-15 VDC, or 4-20 mA@750Ω load impedance. Power: 24 VAC or 24 VDC@50mA max. Size: 3.25"L x 2.25"W x 1.5"H. Aluminum manifold. 1% accuracy. Gauge optional.	<b>ANALOG-</b> Voltage or Current
	<b>PTS100</b>	<b>Floating Point to</b> 100 psig Output. Input: Two Digital (relay, triac, or transistor). Output: 20-100 psig. Rates of Change: 45 sec., 60 sec., 90 sec., 120 sec., or 30 sec., 3, 6, and 8 minutes. Field adjustable. Manual Override. Power: 24 VDC or 24 VAC@150 mA. Aluminum manifold with gauge port. Size: 3.25"L x 2.25"W x 1.5"H.	<b>PNEUMATIC-</b> 20-100 psig
	<b>PTS3.3</b>	<b>Floating Point to</b> Pneumatic Output. Input: Two Digital (relay, triac, or transistor). Output: 0-15 psig. Rates of Change: 45 sec., 1 minute, 90 sec., 2 minutes, or 30 sec., 3, 6, and 8 minutes. Valved exhaust, (14 scim bleed version avail.). Power: 24 VDC or 24 VAC @250 mA. Manual Override, <b>Fail-Safe</b> model available. Gauge optional.	<b>PNEUMATIC-</b> 0-15 psig
	<b>PTS4.1</b>	<b>Floating Point to</b> Pneumatic Output. Input: Two Digital (relay, triac, or transistor). Output: Jumper selectable 0-10, 5-15, or 0-15 psig air pressure. Rate of Change: 90 seconds. 1% Accuracy at room temperature. Power: 24 VDC or 24 VAC@4VA. Size: 3.25"L x 2.25"W x 1.5"H. Anodized aluminum manifold. Gauge optional.	<b>PNEUMATIC-</b> 0-10, 5-15 or 0-15 psig
	<b>PWP100</b>	<b>PWM* to</b> 100 psig Output. Input Pulse: 0-10 sec. duty cycle, 0.1-10, 0.02-5, 0.023-6, 0.59-2.93, and 0.1-25.5 sec., or 0-20V Staefa™ phase cut. Trigger: 9-24 VAC or 9-24 VDC. Output: 0-100 psig. Feedback: 0-5 VDC = 0-100 psig. Power: 24 VDC or 24 VAC@150 mA. Manual Override. Field adj. min/max psi. Aluminum manifold with gauge port.	<b>PNEUMATIC-</b> 100 psig
	<b>PWP*.3</b>	<b>PWM* to</b> Pneumatic Output. Input: 10 sec. duty cycle, 0.1-10, 0.02-5, 0.023-6, 0.59-2.93, 0.1-25.5 sec. or 0-20V phase cut. Trigger: 9-24 VAC or 9-24 VDC. Output: 0-15 psig. Manual override. 1% accuracy. Feedback: 0-5 VDC=0-15 psig. Power: 24 VDC or 24 VAC@160 mA. Valved exhaust or bleed type at 14, 41 & 73 scim, <b>Fail-Safe</b> model.	<b>PNEUMATIC-</b> 0-15 psig
	<b>PXP100</b>	<b>Analog to</b> 100 psig Output. Input ranges/impedance: 0-5 VDC@10KΩ, 0-10 VDC@10KΩ, 0-15 VDC@10KΩ or 0-20 mA@250Ω. Output: 0-100 psig. Feedback: 0-5 VDC = 0-100 psig. Power: 24 VAC or 24 VDC@150 mA. Size: 3.25"L x 2.25"W x 1.5"H. Valved exhaust, anodized aluminum manifold with gauge port.	<b>PNEUMATIC-</b> 100 psig





# INTERFACES

\* PWM - Pulse Width Modulated










## INTERFACES

	INPUT	OUTPUT
	<b>Analog to Pneumatic Output.</b> Input: 0-5 VDC@10KΩ, 0-10 VDC@10KΩ, 0-15 VDC@10KΩ or 0-20 mA@250Ω. Output: 0-15 psig. 1% accuracy@room temp. Feedback: 0-5 VDC=0-15 psig. Power: 24 VAC or VDC@160 mA. Valved exhaust or bleed-type in 14, 41 & 73 scim , & dual valve <b>Fail-Safe</b> model. Aluminum manifold. Gauge optional.	<b>PNEUMATIC-</b> 0-15 psig
	<b>Relay Isolation Module -Two Models.</b> RIM1-single relay. RIM2-dual relay. Both control circuit-board-mounted SPDT relay(s) from 24 VAC or 24 VDC, 115 or 230 VAC. Maximum load switching is 115 VAC@10 amps. LED lights when relay is energized. Size: 3.25" L x 2.25" W x 0.8125" H.	<b>RELAY(S)-</b> Single or Dual
	<b>Relay Isolation Module in Enclosure.</b> Single relay in a compact enclosure. 24 VAC or VDC signal switches a DPDT relay rated at 115 VAC@10 amps. Mounts on handy box. Flying leads are routed through conduit nipple of RIM/E. LED lights when relay is energized. Size: 3.25" L x 2.25" W x .8125 " H	<b>RELAY-</b> Single
	<b>Resistance to Analog Output.</b> Two or three wire, current loop powered, 24 VDC (+/- 10%), 20 mA max. Reverse polarity protected. Linear tracking of resistance input to 5000Ω against output of 4-20 mA (source). Seven jumper selectable input ranges plus adjustable, 2% accuracy. Size: 1.8" L x 2.25" W x 1.0"H.	<b>ANALOG-</b> 4-20 mA
	<b>Pulse to Pulse Output (Triac amplifier).</b> Accepts AC (TRIAC): >20 to 26 VAC, DC: >20 to 35 VDC, AC (NON-TRIAC): >20 to 28 VAC, AC (TRIAC) 9 to 20 VAC, DC: 5 to 20 VDC, AC (NON-TRIAC): 9 to 20 VAC, Output: Triac (two channels) 24 to 120 VAC, 2.5A load at 24 VAC, Size: 3.25" L x 2.40" W x 1.7" H.	<b>AMPLIFIED TRIAC-</b> 24 to 120 VAC

## LONWORKS

	INPUT	OUTPUT
	<b>Four Analog to Two</b> Analog Output User can read the 4 analog input signals, and control the 2 analog outputs. Outputs can be average, highest, lowest or difference (of any two) inputs. Inputs 0-5, 0-10, 0-15 VDC, or 0-20 mA are jumper selectable. Two jumper selectable outputs, 0-10 VDC and 0-20 mA	<b>ANALOG (DUAL)</b>
	<b>LonWorks to Digital.</b> Four (4) digital signal output node increases the number of overrides to the PHOLON. Accepts data from the network or IONLON inputs, outputs up to four digital signals. Accepts 4 contact closures as remote overrides (network configured for momentary or maintained). Also accepts a pulse count or 0-5 VDC analog input.	<b>DIGITAL</b>
	<b>Analog to Analog Output.</b> Allows the user to read an analog input, and control an analog output from the LonWorks network. Jumper select 0-5, 0-10 VDC, 0-20 mA, 10,000 ohm thermistor or resistance input from motor auxiliary potentiometer. Selectable output of 0-10 VDC or 0-20 mA is available.	<b>ANALOG-(Single)</b>
	<b>LonWorks to Analog Output.</b> One analog input, rotary switch and push-buttons for user defined control (i.e. Off, Low, Med, High, etc.), and one analog output. Rotary switch and push buttons are read upon change of state, their new status broadcast over network.	<b>ANALOG-(Single)</b>

## LONWORKS

	INPUT	OUTPUT	
	<b>LMP</b>	<b>Analog to Floating Point Output.</b> Read an analog input and control a floating point or two relay output. Input can accept a motor position feedback signal for monitoring by the LonWorks network. Jumper select 0-5, 0-10 VDC, 0-20 mA or 10,000 ohm thermistor ranges. Accepts a resistance input from control motor auxiliary potentiometers.	<b>FLOATING POINT or TWO INDIVIDUAL RELAYS</b>
	<b>LMP-4DI</b>	<b>LonWorks to Floating Point Output.</b> One analog input, rotary switch and push-buttons for user defined control (i.e. Off, Low, Med, High, etc.), and 2 relay outputs (control closed loop actuators, with the feedback to network.. Rotary switch and push buttons are read upon change of state, and their new status broadcast over network.	<b>FLOATING POINT or TWO INDIVIDUAL RELAYS</b>
	<b>LONDUP</b>	<b>LonWorks to LonWorks Amplifier.</b> Accepts the network terminations, boosts & retransmits the signal. Effectively doubles system capability in the event that LonWorks nodes limits are exceeded. Use with FTT-10, FTT-10A and LPT-10 transceivers for a doubly terminated bus topology, free topology, or TP/XF-78/TP/XF-1250 transceiver network.	<b>AMPLIFIER (In-Line)</b>
	<b>LNT</b>	<b>LonWorks to Network Termination.</b> The LNT provides a network termination point for a doubly terminated bus topology, free topology, or TP/XF-78/TP/XF-1250 transceiver network. A necessary piece of hardware for each LonWorks network.	<b>NETWORK TERMINATION</b>
	<b>PNP-4DI</b>	<b>LonWorks to Pneumatic Output.</b> Local Controls are Off ,Manual (Push buttons control set point, PID locked out), Local, Remote (Variable, PID control is in effect) and "Increase/Decrease" buttons. Network adjustable for Set Point, Proportional Band, Reset Rate, Minimum and Maximum Output, System Operating Mode, and Mode Control.	<b>PNEUMATIC- 0-17 psig</b>
	<b>PNP</b>	<b>LonWorks to Pneumatic Output.</b> The PNP2.1 uses standard kPa SNVT to measure and control the branch line output pressure from 0-17 psig. Alarms if set-point pressure cannot be achieved within two minutes Bleeds no air at set-point. If power to the PNP2.1 is lost the unit will not exhaust any additional air from the branch line.	<b>PNEUMATIC- 0-17 psig</b>
	<b>PNP100</b>	<b>LonWorks to Pneumatic Output.</b> The PNP100 uses standard kPa SNVT to measure and control the branch line output pressure from 20-100 psig. Alarms if set-point pressure cannot be achieved in two minutes Bleeds no air at set-point. If power to the PNP100 is lost the unit will not exhaust any additional air from the branch line.	<b>PNEUMATIC- 20-100 psig</b>
	<b>PHOLON</b>	<b>LonWorks or Digital to Four 30 Amp Relay Output.</b> Accepts data from network (or its digital inputs) to control 30A relays. Used to control lighting, it can also control fans, pumps, or heaters. Network software configures relays to operate from the digital inputs, or from other network overrides or controllers. Relay state in RAM for recovery after power loss.	<b>FOUR RELAYS- 30 AMP</b>
	<b>SNP</b>	<b>Serial (RS485 or RS232) to LonWorks.</b> The <b>SNP</b> allows RS485 or RS232 serial devices to interface to the LonWorks network. The SNP allows the user to read and write to its configured serial port (specify RS232 or RS485 when ordering). Snap track mounted, the SNP can be ordered with accessory DIN rail clips.	<b>LONWORKS NETWORK</b>

# LIGHTING

## LIGHTING



### PHOTON 4

**Lighting Control Interface** via digital input. Four channel output controls G.E. RR-7 mechanical latching relays. Local Override and Remote Digital Override (momentary or maintained) for each circuit. Remote emergency "ALL ON".

### OUTPUT

**DIGITAL OUTPUT**  
G.E. RR-7  
Relay Control



### PHOTON 4.1

**Lighting Control Interface** via RS485 bus or digital input. Four channel output supports up to ten G.E. RR-7 mechanical latching relays per channel. Local Override and Remote Digital Override (momentary or maintained) for each circuit. Programmed timed override and flash. Remote emergency "ALL ON". Protocol provided.

**DIGITAL OUTPUT for**  
G.E. RR-7  
Relay Control

**Advanced Control Technologies (ACT)** is a leading designer and manufacturer of:

**Control Interfaces/Signal Transducers for Building Automation Systems and Process Control Systems**

**Commercial Grade Powerline Carrier Transmitters and Receivers, for remote control of Lighting and Electrical Loads**

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**Lighting Control (Relay Driver) Products for panel mounting with G.E. relays**

Located in **Indianapolis, the Racing Capitol of the World**, ACT manufactures over three hundred versions of control interfaces, plus special LonWorks, Powerline Carrier and RF products.

ACT products are **NIST** traceable to insure the highest quality to installers of Building Automation Systems, HVAC (Heating, Ventilating, Air Conditioning), Lighting, and Industrial Process Control.



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