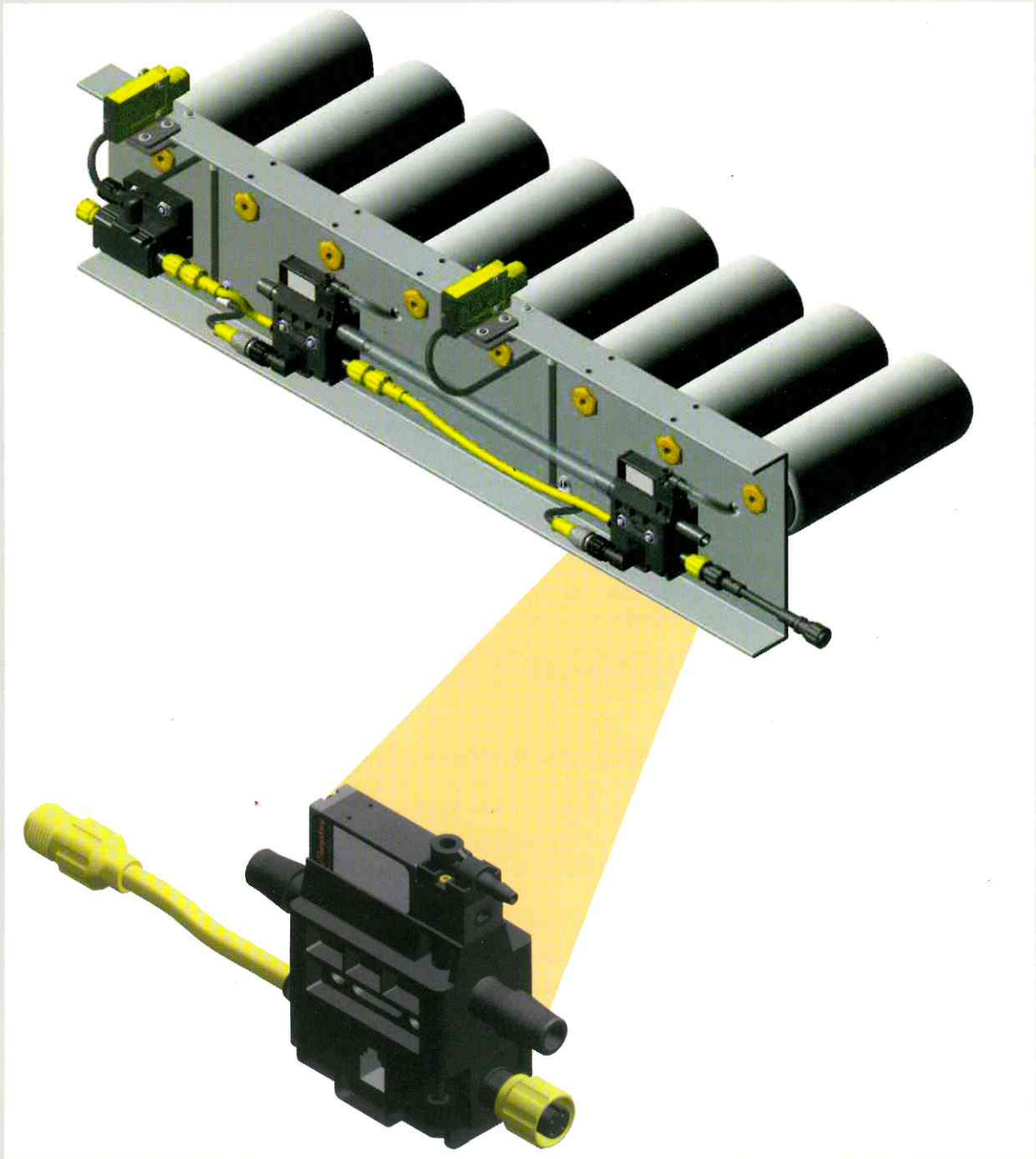


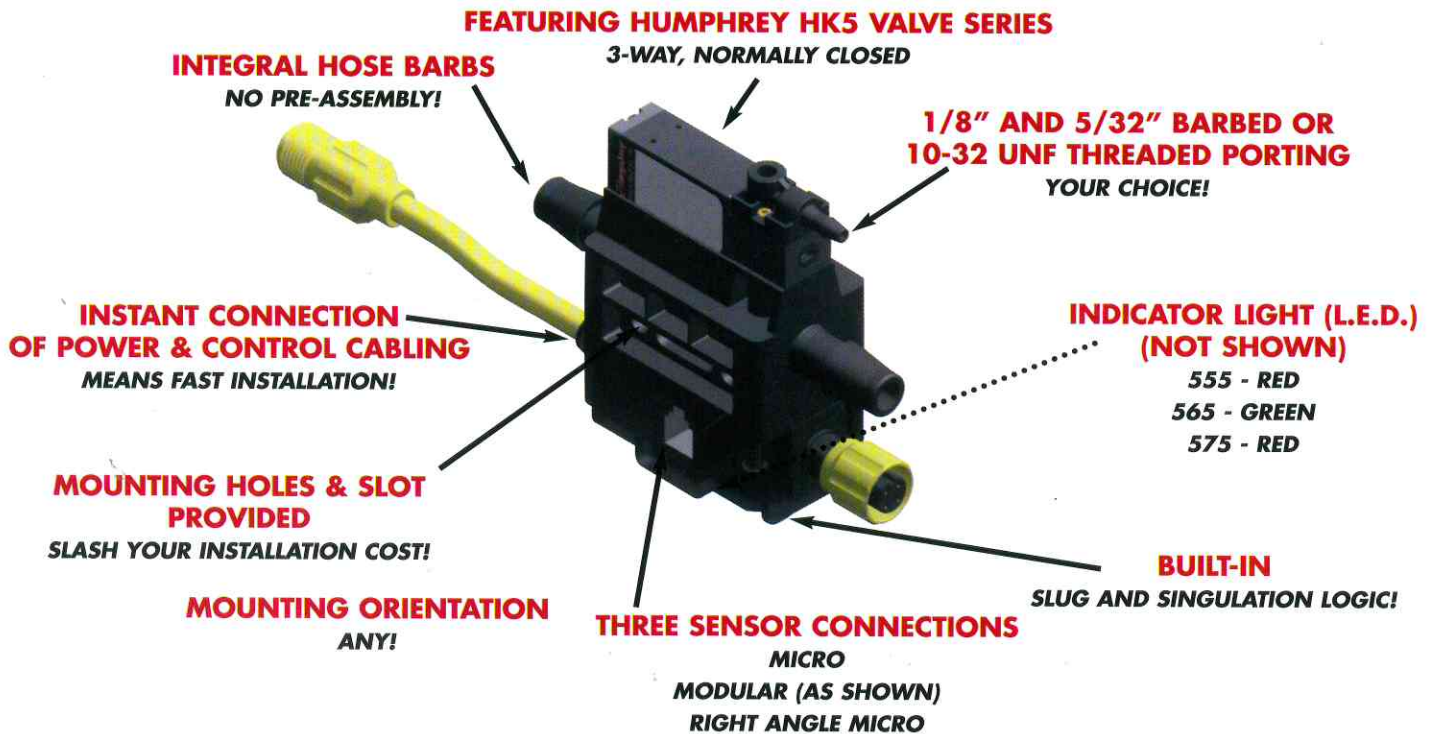
*Humphrey*<sup>®</sup>

**SERIES 555 / 565 / 575**

MATERIAL HANDLING ELECTRO-PNEUMATIC VALVE/SENSOR SYSTEM



**SERIES**  
**555 / 565 / 575**  
**FEATURES & BENEFITS**

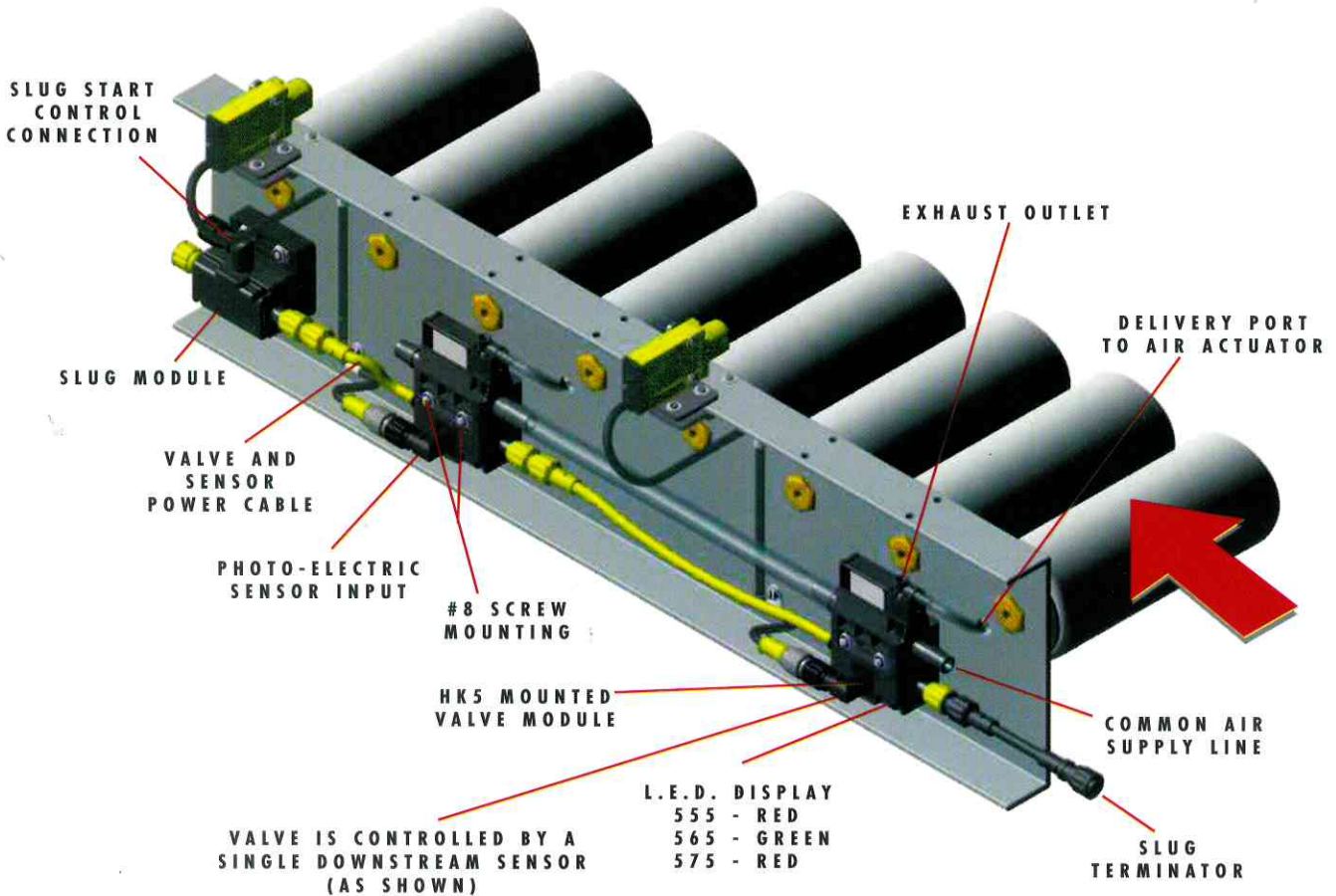


The Humphrey Series 555, 565 and 575 Electro-pneumatic Valve and Sensor Systems are complete valve/wiring/plumbing solutions designed exclusively for pneumatically actuated accumulation-type conveyors. Use with common photo-electric sensors to electrically operate pneumatic actuators controlling drive belts and carrier rollers. The 555, 565 and 575 replace sensor rollers and mechanically operated pneumatic systems with electronic control and intelligence.

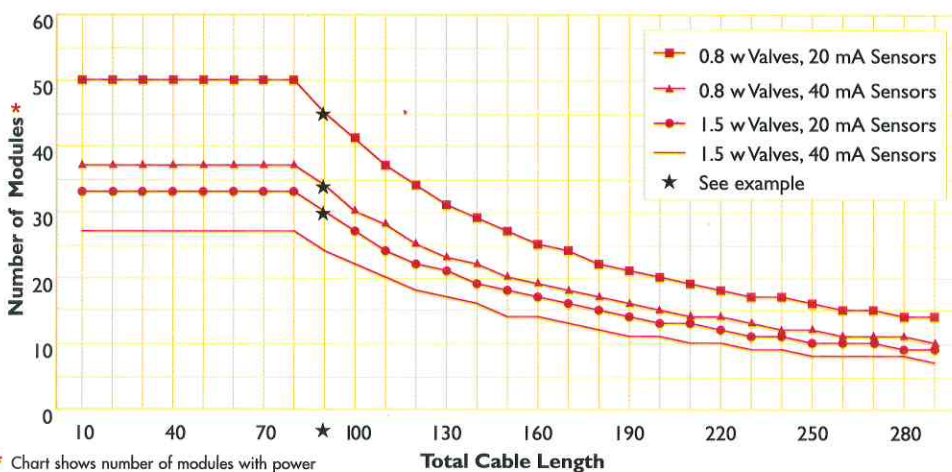
The Humphrey Series 555, 565 and 575 Electro-pneumatic Valve and Sensor Systems offer your choice of ready-to-mount Valve Modules, Slug Modules, Slug Terminators, and Extension Cables. Options include various cable lengths, choice of modular or industry standard 12mm "micro" electrical connectors, pneumatic fitting choices, and optional low power/lower flow valve.

- **Built-in module electronics** allows you to change from singulation mode to slug mode using the available "556" slug module.
- Photo-electric sensing means **no minimum weight restrictions** providing you the flexibility of controlling various carton sizes and loads simultaneously.
- **Greater reliability and noise reduction.** Incorporating the field-proven HK5 diaphragm poppet valve with electronics eliminates sensor rollers, mechanically actuated valves, and other wear points.
- **Reduce assembly time and labor costs.** The modular design comes complete with electrical quick connects, several cabling length options, pneumatic fitting connections, and simple mounting.
- **Easy trouble shooting and maintenance.** Manual overrides and indicator lights are standard.
- **Complete mounting with a single tool** with mounting pin option and one mounting fastener.
- **Customized to match your needs.** Consult factory for other valve configuration(s) and logic functions.

**SERIES**  
**555 / 565 / 575**  
**FEATURES & BENEFITS**



**MAXIMUM NUMBER OF MODULES VS. LENGTH OF CABLE**



**EXAMPLE**

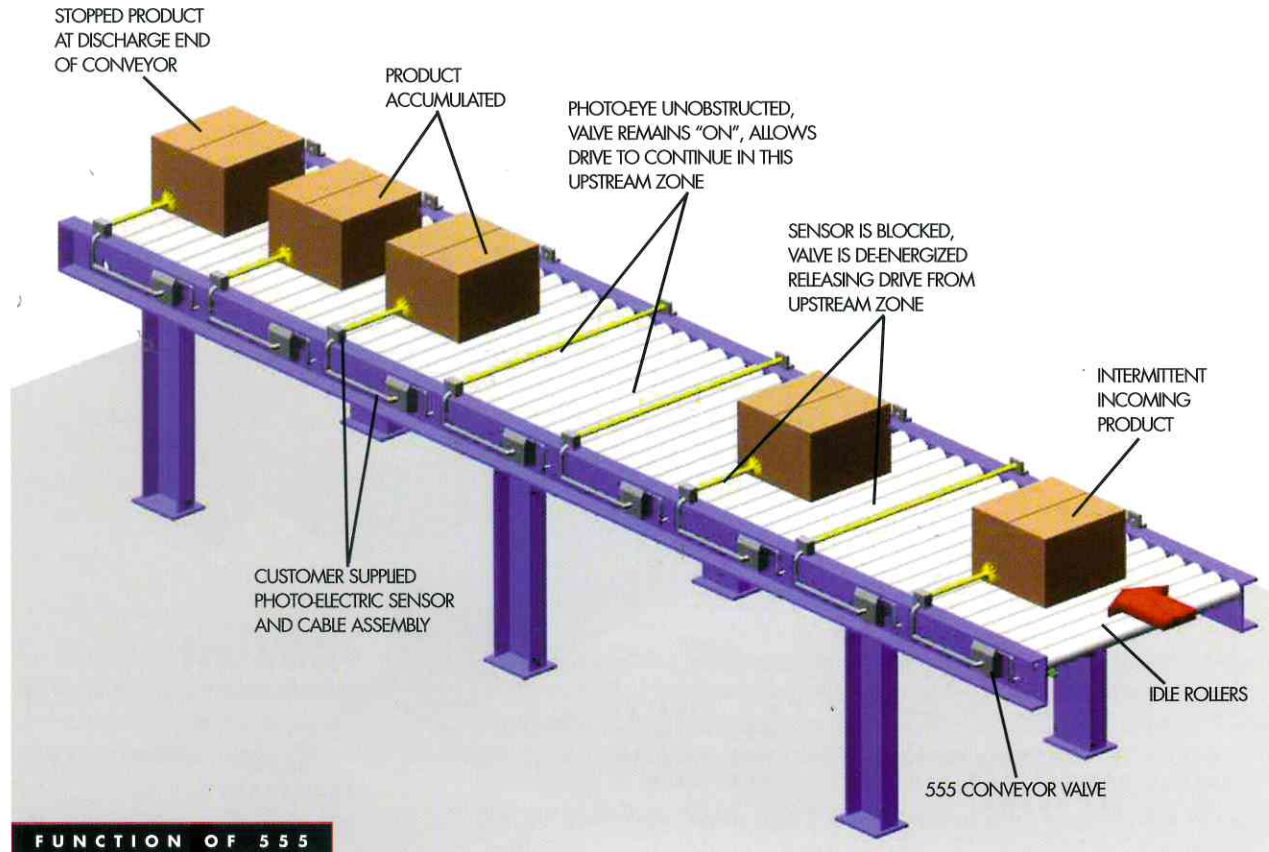
If you have a length of conveyor that requires 30 valves, with 3 ft. of cable between them, you need a total of 90 ft. of cable (see stars at left). At that length, you can use either 0.8 w valves/20 mA sensors, 0.8 w valves/40 mA sensors, or 1.5 w valves/20 mA sensors. You can not use 30 of the 1.5 w valves with 40 mA sensors.

\* Chart shows number of modules with power supply connected at one end of conveyor section. Number of modules can be doubled if power supply is connected in the middle.

# SERIES 555

## FUNCTION

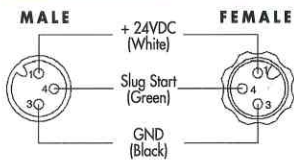
The Humphrey 555 is designed to work on accumulation conveyors that use "pucks", clutches, or other pneumatic actuators to provide power to the conveyor rollers when the air signal is supplied. The 555 is designed to work in singulation mode where each valve is controlled by a single downstream sensor as shown in the table below.



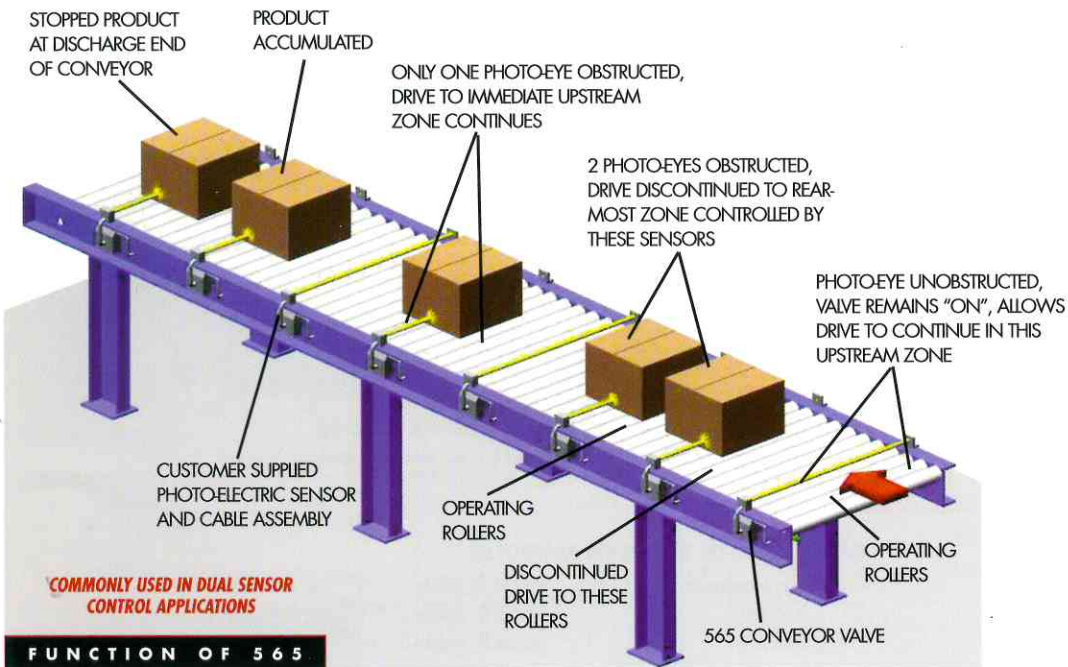
### FUNCTION OF 555

SLUG	Off	Off	On
SENSOR	Blocked	Clear	N/A
VALVE	Off	On	On
ROLLER	No Power	Powered	Powered

### POWER CONNECTORS



\* Switch slug start wire to ground to initiate the slug start function

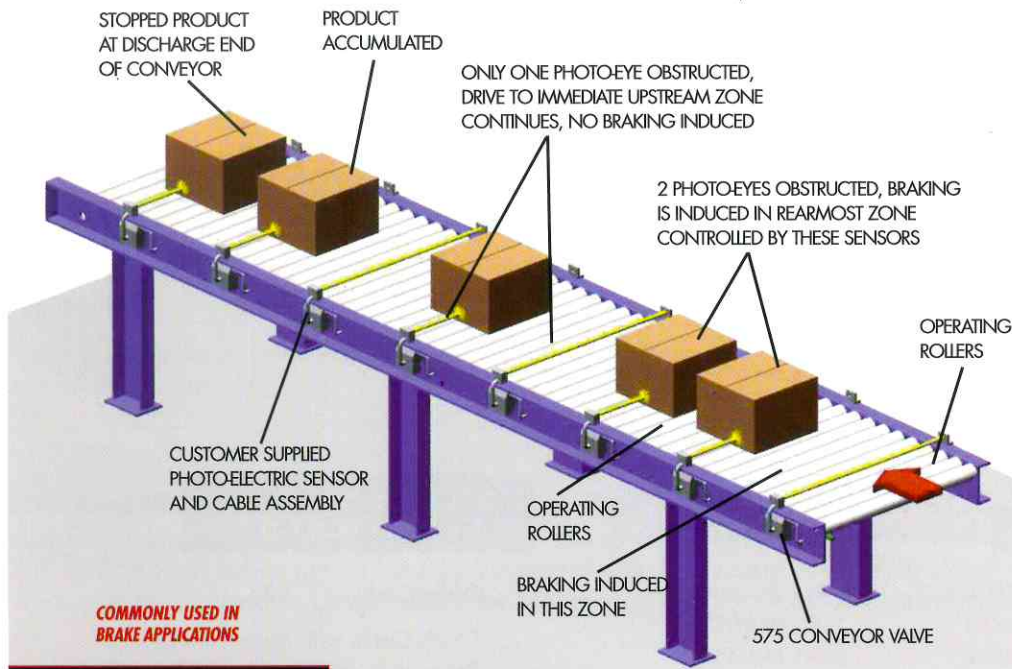


**COMMONLY USED IN DUAL SENSOR CONTROL APPLICATIONS**

**FUNCTION OF 565**

SLUG	Off	Off	Off	Off	On
SENSOR @ ZONE	Clear	Clear	Blocked	Blocked	N/A
SENSOR DOWNSTREAM	Clear	Blocked	Clear	Blocked	N/A
VALVE @ ZONE	On	On	On	Off	On
ROLLER	Powered	Powered	Powered	No Power	Powered

The Humphrey 565 and 575 are designed to work in a "dual zone sensing" (And Function) mode where each valve is controlled by two sensors. The sensor connected directly to the Valve Module is located in the same zone as the valve. The signal from the sensor connected to the downstream Valve Module is transmitted through the power cable.



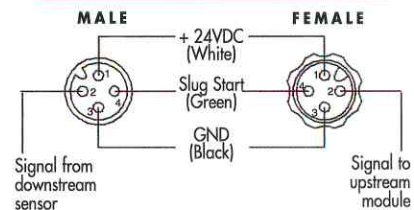
**COMMONLY USED IN BRAKE APPLICATIONS**

**FUNCTION OF 575**

SLUG	Off	Off	Off	Off	On
SENSOR @ ZONE	Clear	Clear	Blocked	Blocked	N/A
SENSOR DOWNSTREAM	Clear	Blocked	Clear	Blocked	N/A
VALVE @ ZONE	Off	Off	Off	On	Off
ROLLER	Powered	Powered	Powered	No Power	Powered

The Humphrey 565 is designed to work on accumulation conveyors that use "pucks", clutches, or other pneumatic actuators to provide power to the conveyor rollers when the air signal is applied. The Humphrey 575 is designed to work with conveyors that use an air signal to apply brakes to stop the rollers.

**POWER CONNECTORS**



\* Switch slug start wire to ground to initiate the slug start function.

**SERIES**  
**555 / 565 / 575**  
 ORDERING

**CONVEYOR VALVE MODULE**

<b>SERIES</b>	<b>VALVE</b>	<b>CABLE</b>	<b>PORTING</b>	<b>CONNECTOR</b>	<b>OPTIONS</b>	<b>VOLTAGE</b>
555	L	N	02	2	P	24VDC

**555** Single Sensor, Air Driven Conveyor  
**565** Dual Sensor, Air Driven Conveyor  
**575** Dual Sensor, Air Brake Conveyor

**MANUAL OVERRIDE**  
 O Non-Locking Override  
 N No Override

**DELIVERY PORT**  
 B Molded Barb Fitting (1/8 inch ID tubing)  
 B1 Molded Barb Fitting (5/32 inch ID tubing)  
 B2 Molded Barb Fitting with 10-32 threaded exhaust (1/8 inch ID tubing)  
 B3 Molded Barb Fitting with 10-32 threaded exhaust (5/32 inch ID tubing)  
 T 10-32 Threaded Ports

**SENSOR CONNECTOR**  
 1 12mm Micro Connector  
 2 Modular Connector  
 3 90 degree 12mm Micro Connector

**CABLE LENGTH BETWEEN MODULES**

00 Micro Connector, No Cable	04 4 ft. cable	08 8 ft. cable
01 1 ft. cable	05 5 ft. cable	09 9 ft. cable
02 2 ft. cable	06 6 ft. cable	10 10 ft. cable
03 3 ft. cable	07 7 ft. cable	

**POWER CONSUMPTION/FLOW**  
 L Low Power (0.8 watt coil/Low Flow)  
 H High Power (1.5 watt coil/High Flow)

**CONVEYOR SLUG MODULE**

<b>SERIES</b>	<b>CABLE</b>	<b>CONNECTOR</b>	<b>OPTIONS</b>	<b>VOLTAGE</b>
556	02	2	P	24VDC

**SENSOR CONNECTOR**  
 1 12mm Micro Connector  
 2 Modular Connector  
 3 90 degree 12mm Micro Connector

**CABLE LENGTH BETWEEN MODULES**

00 Micro Connector, No Cable	04 4 ft. cable	08 8 ft. cable
01 1 ft. cable	05 5 ft. cable	09 9 ft. cable
02 2 ft. cable	06 6 ft. cable	10 10 ft. cable
03 3 ft. cable	07 7 ft. cable	

**EXHAUST MUFFLER OPTION**

Order Code: TAC 150-30A  
 10/32 Threaded Muffler



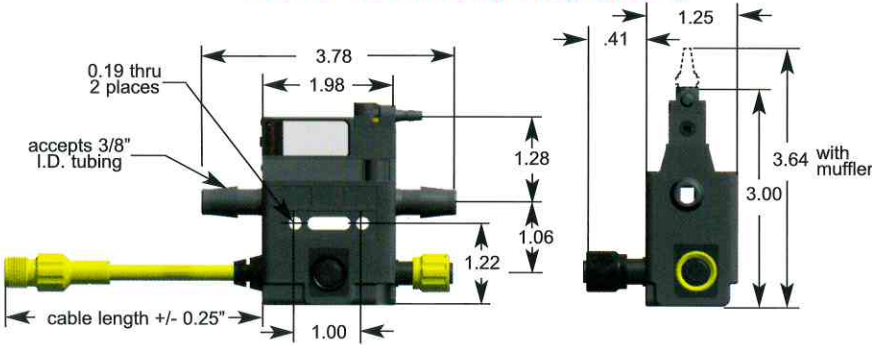
**EXTENSION CABLES (4 conductor)**

<b>OVERALL CABLE LENGTH</b>	<b>MALE-TO-FEMALE TERMINATION PART NUMBER</b>	<b>MALE-TO-MALE TERMINATION PART NUMBER</b>
1 Foot:	38136	38139
3 Feet:	38137	38140
6 Feet:	38138	38141

**CONVEYOR SLUG TERMINATOR**

Order Code: 557  
 5 Inch Cable with Male/Female Connectors and Slug Signal Termination

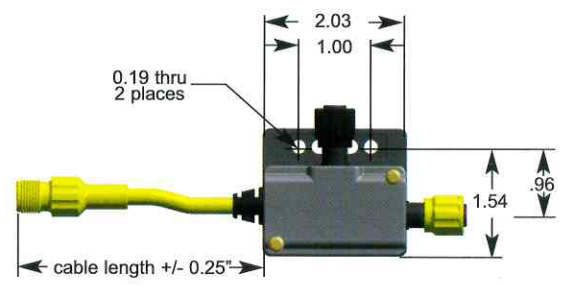
**VALVE MODULE WITH SENSOR MICRO CONNECTOR (Option Code: 1)**



**SERIES 555 / 565 / 575**  
DIMENSIONS & SLUG MODULE USAGE

**DIMENSIONS**

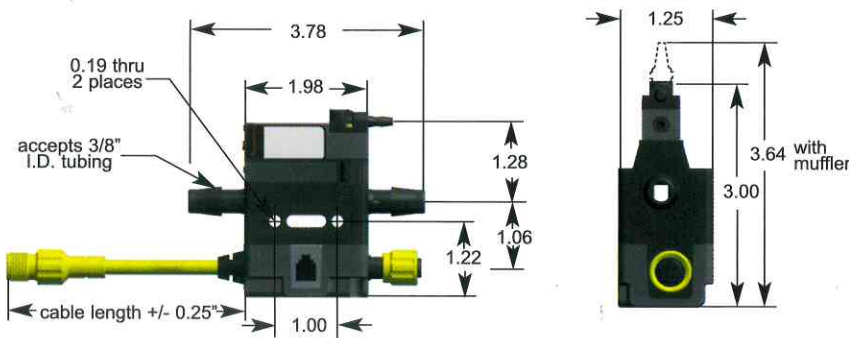
**SLUG MODULE WITH SENSOR MICRO CONNECTOR (Option Code: 1)**



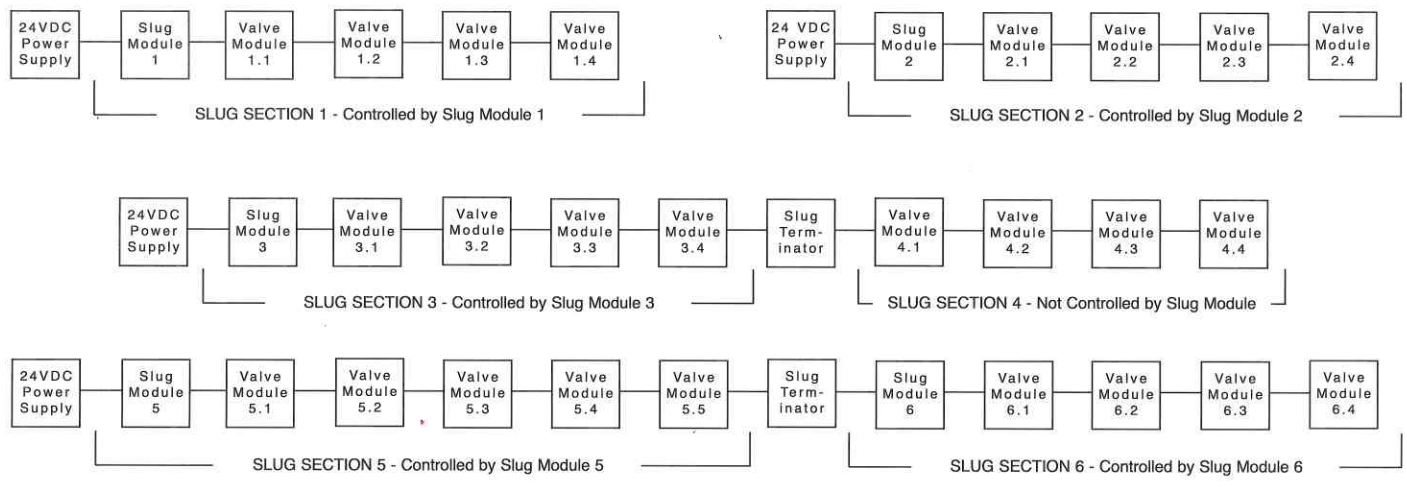
**VALVE MODULE WITH SENSOR MICRO RIGHT ANGLE CONNECTOR (Option Code: 3)**



**VALVE MODULE WITH SENSOR MODULAR CONNECTOR (Option Code: 2)**



**EXAMPLES OF SLUG MODULE USAGE**



**556 Slug Module** - The slug module is used to initiate a slug or block withdrawal from a section of conveyor. When the slug module is initiated via its sensor connector, it forces all of the valve modules connected to it to drive product. In the case of the 555 and 565, all valves will be forced on during a slug. In the case of the 575, all valves will be forced off. See the diagram "Examples of Slug Module Usage" above for connection examples. The 556 uses the same power and sensor connections as the 555.

**557 Slug Terminator** - The slug terminator is a short 5" male-female cable. The slug terminator is designed to break the slug signal and separate a section of conveyor that uses slug withdrawal from a section of conveyor that does not use the slug function or is controlled by a different slug module. The 557 Slug Terminator is connected between the power cables of the Valve Modules as shown in the "Examples of Slug Module Usage" diagram above. The 557 Slug Terminator is colored black to be easily distinguished from the Valve Module cabling.

**SERIES**  
**555 / 565 / 575**  
SPECIFICATIONS

**VALVE MODULE**

Type: Normally closed, 3-way  
 Nominal Voltage: 24 VDC  
 Min. Operating Voltage: 21.5 VDC\*  
 Current: 69.5 mA / 1.5 w Coil @ 24 VDC  
 40.0 mA / 0.8 w Coil @ 24 VDC  
 Maximum # of Modules: See chart below  
 Media: Compressed air, filtered to 40 micron  
 Weight (less cable): 3.49 ounces (98.9 grams)  
 Wetted Materials: Stainless Steel  
 Xenoy® - GE®  
 6/6 Glass-filled Nylon  
 NBR Seals  
 Thermoset Epoxy  
 Radel R® - Amoco®  
 Enclosure Protection: NEMA Type 2

**VALVE SPECIFICATIONS**

	<b>0.8 w Coil</b>	<b>1.5 w Coil</b>
Pressure Range:	VAC - 60 PSI	VAC - 100 PSI
Flow @ 20 PSI:	0.5 CFM	0.8 CFM
@ 40 PSI:	1.0 CFM	1.4 CFM
@ 60 PSI:	1.5 CFM	2.0 CFM
@ 80 PSI:	-----	2.5 CFM
@ 100 PSI:	-----	3.0 CFM

**SENSOR** (not included, customer supplied)

Type: (Retro-reflective and Thru-beam) NPN, Light On (Normally Open)  
 (Diffuse) NPN, Dark On (Normally Closed)  
 Nominal Voltage: 24 VDC  
 Min. Operating Voltage: 20 VDC  
 Switching Capacity: >80 mA  
 Voltage Drop: <1 VDC

**CABLE**

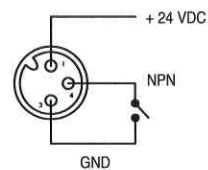
Type: 3 Conductor (555, 556 Slug Modul  
 4 Conductor (565, 575)  
 Yellow PVC Jacket  
 Wire Gauge: 20 AWG  
 Resistance: 10.128 Ω / 1000 ft.  
 Wire Colors: + 24 VDC: White  
 Slug Start: Green  
 GND: Black  
 Downstream Sensor: Red

**SLUG MODULE**

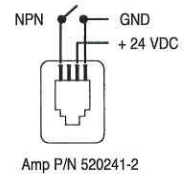
Nominal Voltage: 24 VDC  
 Min. Operating Voltage: 21.5 VDC\*  
 Current: 20 mA  
 Switching Time: 10 ms  
 Switching Capacity: 5 A  
 Weight (less cable): 2.15 ounces (61.0 grams)  
 Materials: Xenoy® - GE®  
 6/6 Glass-filled Nylon  
 Enclosure Protection: NEMA Type 2

**SENSOR CONNECTORS**

**FEMALE MICRO  
SENSOR CONNECTOR**  
(Option Code: 1)



**FEMALE MODULAR  
SENSOR CONNECTOR**  
(Option Code: 2)

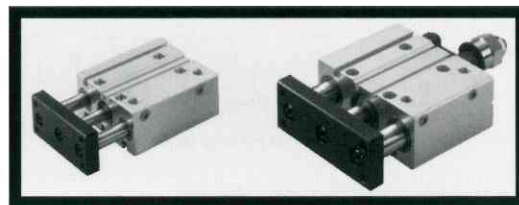


\*Voltage at module including all cable voltage drops

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**300-400 Series Direct Acting Solenoid Valves**



**HSGDA Series used for Conveyor Stops**



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