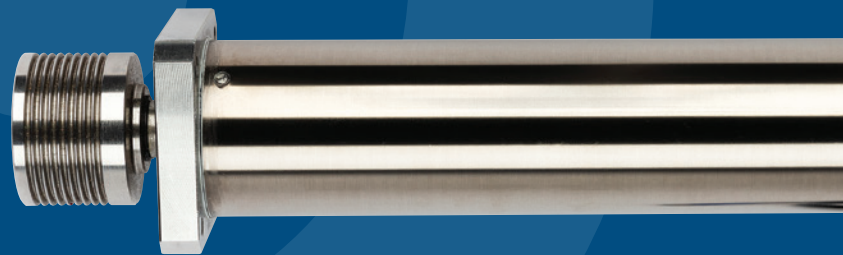


PULSEROLLER®

We don't make
the conveyor.

We make it smart.





Intelligent performance:

Components for advanced intralogistics



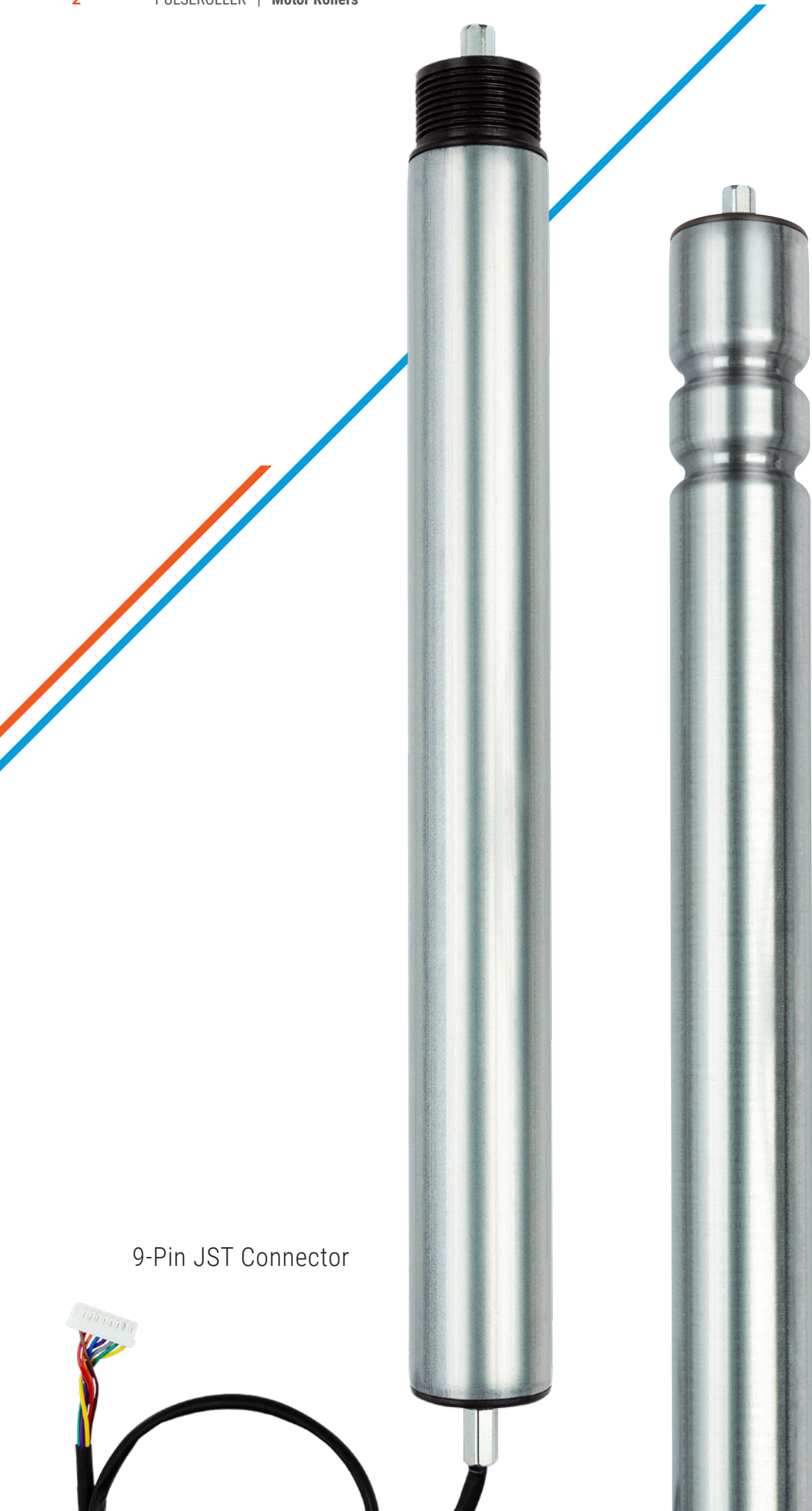
- 2 Senergy/Senergy-Ai** Motor Roller
- 6 Senergy-Ai -48** Motor Roller
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- 10 Interlocking, Lagging, and Coatings** Options
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- 28 PDU-90 Right Angle Transfer** Transfer Unit
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- 36 ConveyLinx-Ai2, Ai3-FC & RC 24** Controller
- 40 ConveyLinx-Ai2-48, Ai3-48-FC** Controller
- 42 Raptor Controller RSC-Ai** Controller
- 44 EQUBE** Controller
- 46 EZ-QUBE** Controller
- 48 Integrator Products** Controller
- 50 Accessories**





All **Pulseroller SENERGY®** motor roller and drive products utilize 10-pole brushless DC motors (BLDC) and all-metal planetary gearboxes. This design provides **superior reliability, excellent torque, and smooth and quiet operation**, even in the most demanding applications.

When combined with our patented control technologies; Pulseroller provides the **highest performance and most flexible** MDR control solutions in the industry. With a wide range of **accessories, interlocking, and coatings** the Senergy product line includes solutions for Washdown (NSF rated, IP66, IP69K), Freezer, Mechanical Brake, Pallet, and other material handling applications.



9-Pin JST Connector



SENERGY®

Senergy & Senergy-Ai

The new marketplace standard. Pulseroller Senergy motor rollers have become the performance and reliability standard for the motorized roller conveyor industry. Coupled with Pulseroller's innovative and flexible controllers, Senergy solutions will provide reliable results for the most challenging material handling needs.

Senergy. Pulseroller's original motor roller was designed with a **9-Pin JST** style connector, the most common in the conveyor market. Its robust and unique gearbox design significantly improves life expectancy. Provides a wide range of speed and power and utilizes a safe and effective 24V power supply.

Senergy-Ai. Pulseroller's patented **Ai technology** has all the same benefits as Senergy, but Senergy-Ai provides intelligence inside the motor to allow precision commutation as well as the controller access to the roller specific data and usage. All of this functionality is achieved with simple yet proven and robust **4-Pin M8** style connectivity.

BENEFITS

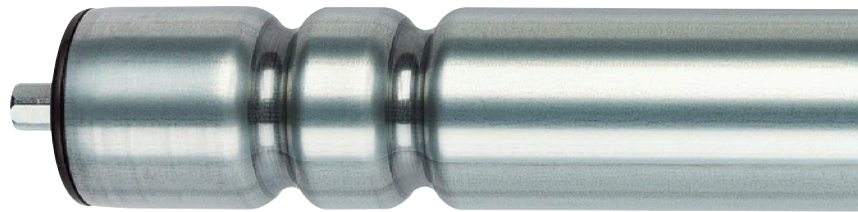
- Reliable conveyor operation
- Increased throughput
- Precise positioning
- Excellent longevity
- Remote visibility and diagnostics

FEATURES

- Brushless 24V DC motor
- External motor controller
- High overload capacity
- High starting torque
- IP54/66/69K



SENERGY® / Senergy-Ai – proven material handling solutions



Performance Data - Senergy/Senergy-Ai 24V

Models **A, B, W, V, Q, and Z**

48.6 mm Dia.

ECO Mode

Speed Code	Gear Box Stages	Gear Ratio	Speed Range m/s ft/min		Torque N-m in-lbs		
			Min	Max	Rated	Starting	
10	3	605/9	0.02 ~ 0.22 3.9 ~ 43.3	4.4 ~ 24.4 39.3 ~ 216.0			
15		45	0.03 ~ 0.33 6.6 ~ 64.6	2.9 ~ 16.3 25.7 ~ 144.3			
20		33	0.05 ~ 0.45 8.9 ~ 88.3	2.1 ~ 12.0 18.6 ~ 106.2			
25		27	0.06 ~ 0.55 10.8 ~ 107.6	1.7 ~ 9.8 15.0 ~ 86.7			
35		55/3	0.08 ~ 0.81 15.7 ~ 159.1	1.3 ~ 6.6 11.1 ~ 58.4			
45	2	15	0.10 ~ 0.99 19.4 ~ 193.9	0.9 ~ 5.4 8.0 ~ 47.8			
60		11	0.13 ~ 1.35 26.2 ~ 265.1	0.7 ~ 4.0 6.2 ~ 35.4			
75		9	0.16 ~ 1.64 32.2 ~ 323.2	0.5 ~ 3.2 4.4 ~ 28.3			
95	1	75/11	0.22 ~ 2.17 42.3 ~ 426.8	0.4 ~ 2.4 3.5 ~ 21.2			
125		5	0.29 ~ 2.96 57.7 ~ 582.0	0.3 ~ 1.8 2.7 ~ 15.9			
175		11/3	0.40 ~ 4.04 78.7 ~ 794.9	0.2 ~ 1.3 1.8 ~ 11.5			
215		3		0.49 ~ 4.93 96.1 ~ 969.8	0.1 ~ 1.0 0.9 ~ 8.9		

Rated Current	Starting Current
2.5A	3.0A

Performance Data - Senergy/Senergy-Ai 24V

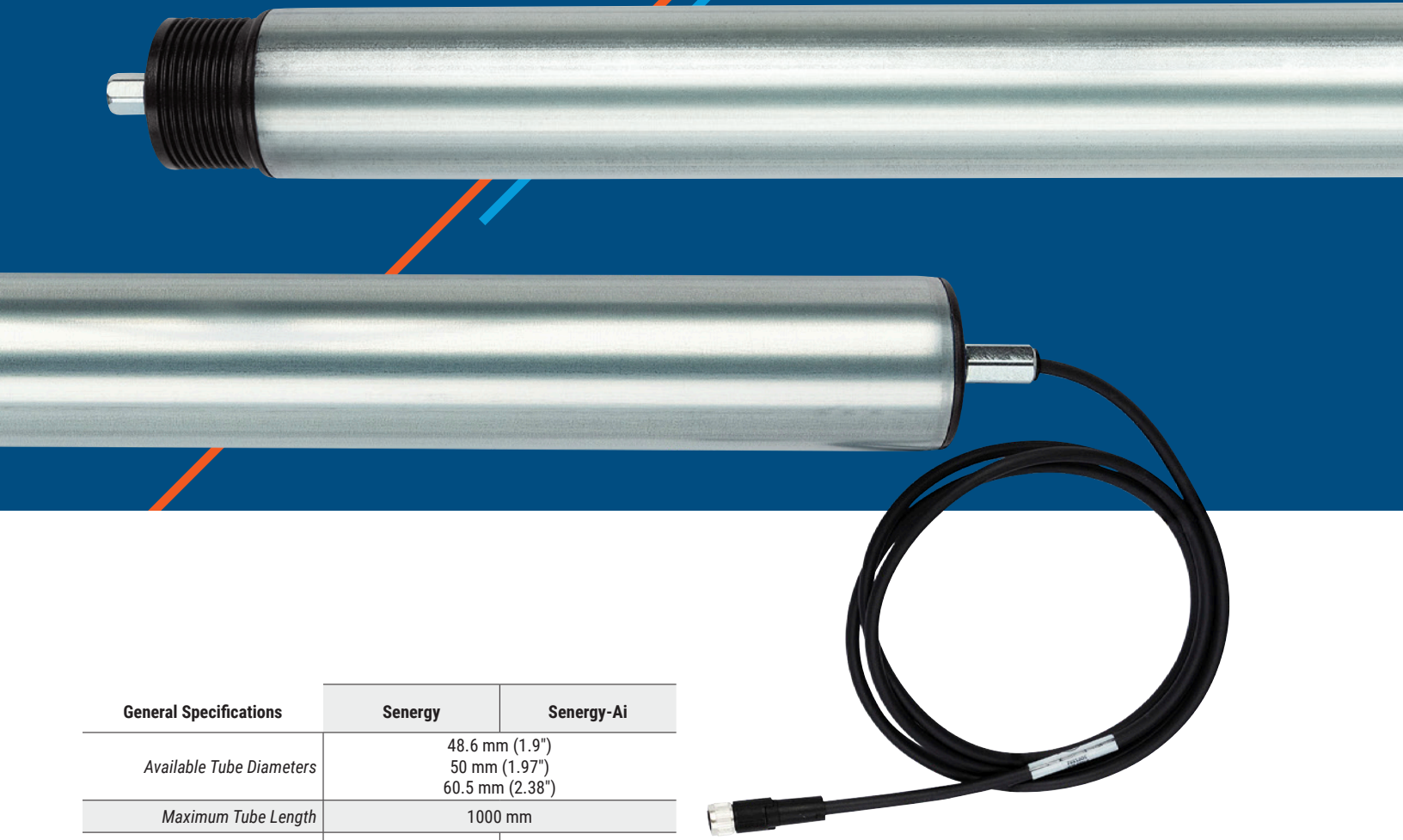
Models **A, B, W, V, Q, and Z**

48.6 mm Dia.

BOOST & BOOST 8 Mode

Speed Code	Gear Box Stages	Gear Ratio	Speed Range m/s ft/min		Torque N-m in-lbs	BOOST Starting	BOOST-8 Starting
			Min	Max			
10	3	605/9	0.02 ~ 0.16 3.9 ~ 31.5	8.1 ~ 36.3 71.4 ~ 321.3			
15		45	0.03 ~ 0.24 6.6 ~ 46.9	5.4 ~ 24.3 47.8 ~ 188.5			
20		33	0.05 ~ 0.33 8.9 ~ 64.0	3.9 ~ 17.7 34.5 ~ 156.6			
25		27	0.06 ~ 0.40 10.8 ~ 78.1	3.2 ~ 14.5 28.3 ~ 128.3			
35		55/3	0.08 ~ 0.58 15.7 ~ 114.8	2.1 ~ 9.8 18.6 ~ 86.7			
45	2	15	0.10 ~ 0.71 19.4 ~ 140.4	1.8 ~ 8.1 15.9 ~ 71.7			
60		11	0.13 ~ 0.97 26.2 ~ 191.6	1.3 ~ 5.9 11.5 ~ 52.2			
75		9	0.16 ~ 1.19 32.2 ~ 233.9	1.0 ~ 4.8 8.9 ~ 42.5			
95	1	75/11	0.22 ~ 1.57 42.3 ~ 308.7	0.8 ~ 3.6 7.1 ~ 28.3			
125		5	0.29 ~ 2.14 57.7 ~ 420.9	0.6 ~ 2.7 5.3 ~ 20.4			
175		11/3	0.40 ~ 2.92 78.7 ~ 574.8	0.4 ~ 1.9 3.5 ~ 15.0			
215		3		0.49 ~ 3.56 96.1 ~ 701.4	0.3 ~ 1.6 2.7 ~ 12.4		

Rated Current	BOOST Starting Current	BOOST-8 Starting Current
3.5A	5.0A	8.0A



4-Pin M8 Connector

General Specifications	Senergy	Senergy-Ai
Available Tube Diameters	48.6 mm (1.9") 50 mm (1.97") 60.5 mm (2.38")	
Maximum Tube Length	1000 mm	
Motor Cable Length	600 mm	1000 mm
Motor Controller Connection	9 Pin JST	4 Pin M8
Washdown Model Available	Yes	
Freezer Rated Model Available	Yes	
Mechanical Brake Option	Yes	No
Ambient Temperature	-10 ~ 40°C (14 ~ 104°F) (No Condensation)	
Ambient Humidity	10 ~ 90% RH (No Condensation)	
Certifications	CE, UKCA, IP54 UL Recognized to UL 1004-1 ETL Listed to UL 1004-1 & UL 1004-6	
Input Voltage	24 VDC	
Nominal Power Output	40W (50W in Boost Mode)	
Rated Current	2.5A (3.5A in Boost Mode)	
Starting Current	5A Boost Mode / 8A Boost-8 Mode	
Maximum Motor RPM	5800 ECO / 4200 Boost & Boost-8	
Minimum Motor RPM	580	
Minimum Duty Cycle	0.5 sec ON / 0.5 sec OFF (1.5 sec OFF when in Boost-8 Mode)	
Continuous Operation	At rated load/current in ECO Mode	
Compatible Controls	ConveyLinX ConveyLinX-HTF ConveyLinXE ConveyLinXE-HTF E-QUBE EZ-QUBE EZ-QUBE-W EZ-QUBE-HTBF	ConveyLinX-Ai2 ConveyLinX-Ai3-24-FC ConveyLinX-Ai3-24-RC MotionLinX-Ai E-QUBE-Ai EZ-QUBE-W-Ai

Scan for More
Technical Data



Senergy-Ai-48

Double voltage – multiple advantages With a **48V supply voltage**, the established Senergy-Ai motorized roller reaches a new level of performance with the new **Senergy-Ai-48** model. This model is based upon the same established, reliable, and proven mechanical components as all other Senergy models. This combination of known and proven mechanical design coupled with the performance and efficiency of **48V** operation produce an impressive and exceptional product for the motorized roller conveyor industry.



The **Senergy-Ai-48** utilizes the same proven and patented Ai technology controller connectivity as 24V Senergy-Ai with all of the features and advantages it affords.

Senergy-Ai-48 motor rollers are available as options for **PDU-90** transfers and **PPU-30/45** diverter units. The Senergy-Ai-48 engine is also available in our convenient **PGD** package.

When used in conjunction with either the **ConveyLinx-Ai2-48** or **ConveyLinx-Ai3-48-FC** controllers, the use of 48V supply when compared with 24V supply can offer the following advantages:

- Significantly increased torque of the drive for stronger acceleration of heavy goods and higher throughput.
- More precise and smooth acceleration due to high power output for better controllability of the drive when positioning and braking.
- Larger and more powerful PDU-90 transfers with increased length and quantity of belt units.
- By essentially decreasing the current load by 50%, power cables from the supply unit to the controllers can either be smaller gauge conductors or be significantly longer which can reduce the cost and increase flexibility in installation.
- Reduction in the number of power supply units required for a given application can result in cost savings in procurement, cabling, and installation.

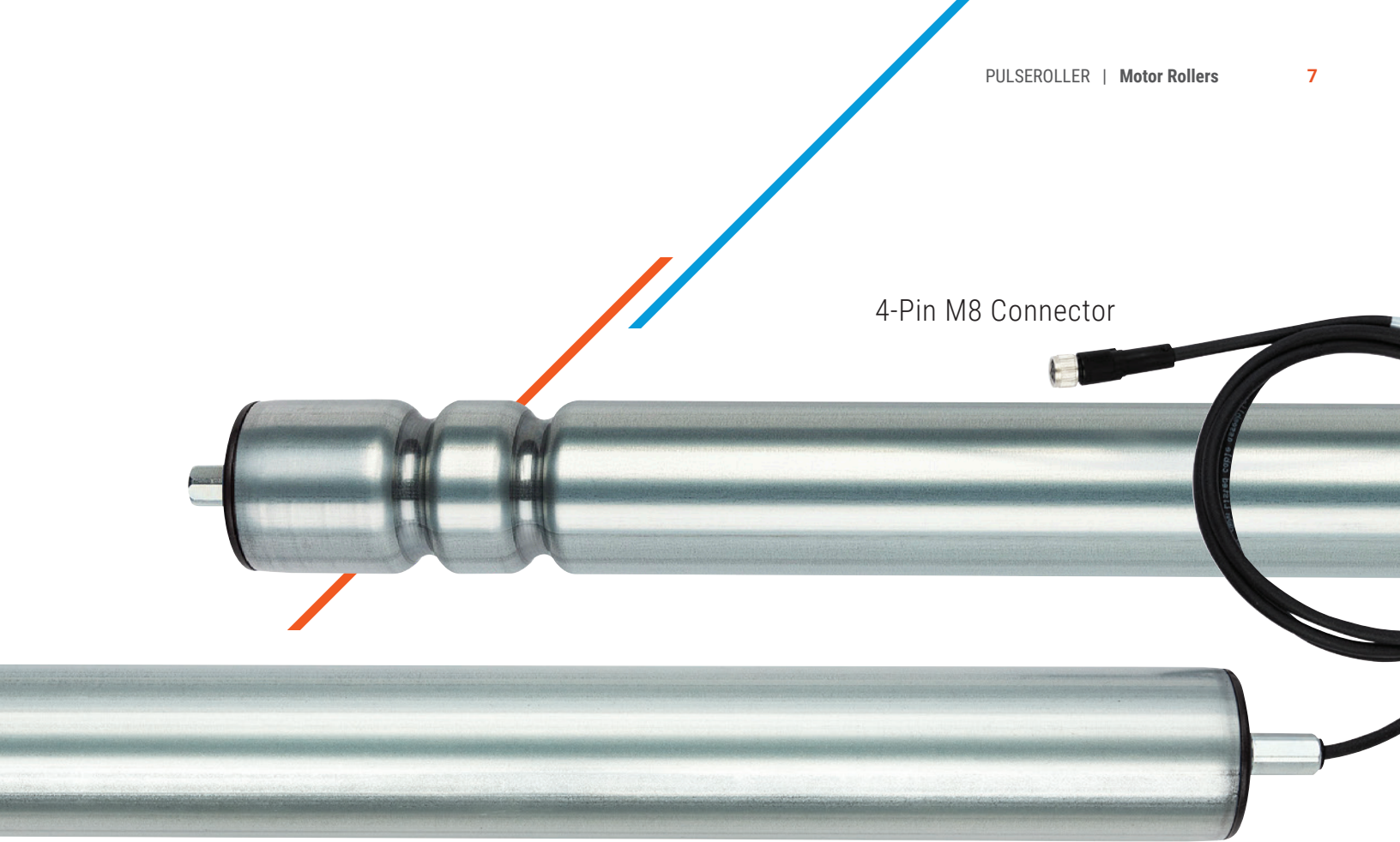
BENEFITS

- Excellent acceleration of heavy goods
- Longer cables feasible
- Less power supplies needed
- More precise, smooth acceleration
- Larger more powerful transfers available
- Excellent longevity
- Remote visibility and diagnostics

FEATURES

- Brushless 48V DC motor
- External motor controller
- High overload capacity
- High starting torque
- Oversized gearbox and parts
- Standard 4-Pin M8 connector
- Internal data memory
- IP54/66/69K





4-Pin M8 Connector

Performance Data - Senergy-Ai-48V

Models ① **A, W, V, Q, and Z**
48.6 mm Dia.

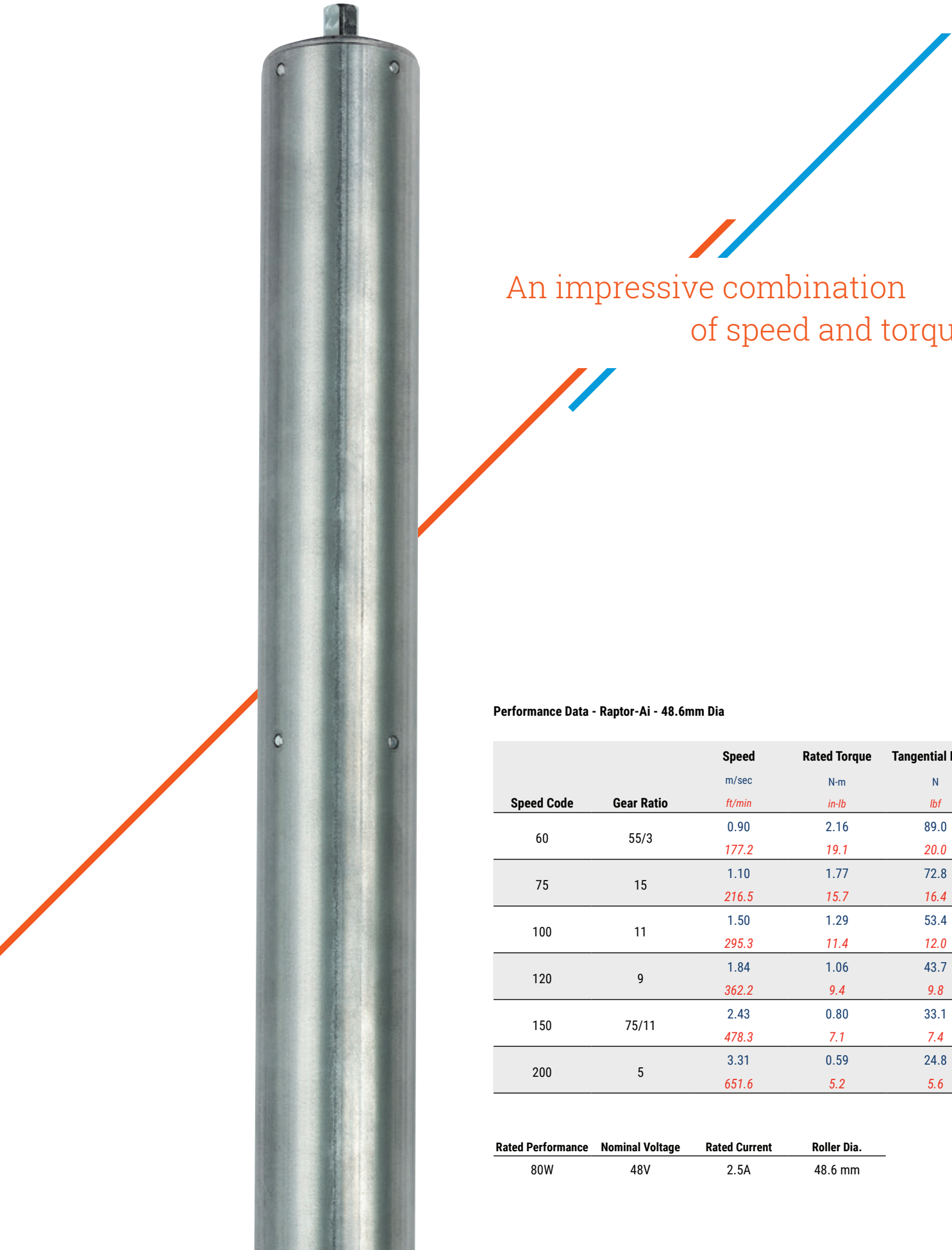
Speed Code	Gear Box Stages	Gear Ratio	Speed Range		Torque	
			Min	Max	Rated	Holding
15	3	45	0.03	~ 0.40	2.95	7.94
			5.9	~ 78.7	26.11	70.27
20	3	33	0.04	~ 0.54	2.16	5.82
			7.9	~ 106.3	19.12	51.51
35	2	55/3	0.08	~ 0.97	1.25	3.10
			15.7	~ 190.9	11.06	27.44
45	2	15	0.10	~ 1.19	1.02	2.54
			19.7	~ 234.3	9.03	22.48
60	2	11	0.13	~ 1.62	0.75	1.86
			25.6	~ 318.9	6.64	16.46

Rated Performance **Rated Current**
50W 1.6A

General Specifications	Senergy-Ai-48
Available Tube Diameters	48.6 mm (1.9") 50 mm (1.97") 60.5 mm (2.38")
Maximum Tube Length	1000 mm
Motor Cable Length	1000 mm
Motor Controller Connection	4 Pin M8
Washdown Model Available	Yes
Freezer Rated Model Available	Yes
Mechanical Brake Option	No
Ambient Temperature	-10 ~ 40°C (14 ~ 104°F) (No Condensation)
Ambient Humidity	10 ~ 90% RH (No Condensation)
Certifications	CE, UKCA, IP54 UL Recognized to UL 1004-1 ETL Listed to UL 1004-1 & UL 1004-6
Input Voltage	48 VDC
Nominal Power Output	50W
Rated Current	1.6A
Starting Current	4.0A
Maximum Motor RPM	7000
Minimum Motor RPM	580
Minimum Duty Cycle	0.5 sec ON / 0.5 sec OFF
Continuous Operation	No overheat at rated load/current
Compatible Controls	ConveyLinx-Ai2-48 ConveyLinx-Ai3-48-FC



Scan for More
Technical Data



An impressive combination
of speed and torque

Performance Data - Raptor-Ai - 48.6mm Dia

Speed Code	Gear Ratio	Speed	Rated Torque	Tangential Force
		m/sec <i>ft/min</i>	N-m <i>in-lb</i>	N <i>lbf</i>
60	55/3	0.90	2.16	89.0
		<i>177.2</i>	<i>19.1</i>	<i>20.0</i>
75	15	1.10	1.77	72.8
		<i>216.5</i>	<i>15.7</i>	<i>16.4</i>
100	11	1.50	1.29	53.4
		<i>295.3</i>	<i>11.4</i>	<i>12.0</i>
120	9	1.84	1.06	43.7
		<i>362.2</i>	<i>9.4</i>	<i>9.8</i>
150	75/11	2.43	0.80	33.1
		<i>478.3</i>	<i>7.1</i>	<i>7.4</i>
200	5	3.31	0.59	24.8
		<i>651.6</i>	<i>5.2</i>	<i>5.6</i>

Rated Performance	Nominal Voltage	Rated Current	Roller Dia.
80W	48V	2.5A	48.6 mm

RAPTOR®

Roller Drive of the Future. While the Pulseroller team has been pushing the envelope of what the Senergy motor engine can do with **48V**, the team also went to the drawing board to come up with a new motor drive whose normal performance would exceed the Senergy pushed to its limits. The answer is the **RAPTOR®** Motor Roller and accompanying controller.

The **Raptor** is rated for **80W** of output power under **continuous operation** without overheating. The motor and control is also designed to provide **170W** of burst output power for up to 5 seconds. Unlike the 24V Senergy drives whose peak power is only available upon start-up, this burst is available **on demand**.

Particularly appealing is that the **Raptor's torque rating** for the equivalent 24V Senergy speed code is essentially **double**. Coupled with the on demand burst capability, the peak torque can be close to **4 times** for a Raptor at the comparable 24V Senergy speed code.

	Raptor-Ai
<i>Available Tube Diameters</i>	48.6 mm (1.9") 50 mm (1.97")
<i>Maximum Tube Length</i>	1000 mm
<i>Motor Cable Length</i>	1000 mm
<i>Motor Controller Connection</i>	4 Pin M8
<i>Washdown Model Available</i>	No
<i>Mechanical Brake Option</i>	No
<i>Ambient Temperature</i>	-10 ~ 40°C (14 ~ 104°F) (No Condensation)
<i>Ambient Humidity</i>	10 ~ 90% RH (No Condensation)
<i>Certifications</i>	CE UL Recognized to UL 1004-1
<i>Input Voltage</i>	24/48 VDC*
<i>Nominal Power Output</i>	80W*
<i>Rated Current</i>	2.5A
<i>Starting Current</i>	5.5A Max
<i>Maximum Motor RPM</i>	7500*
<i>Minimum Motor RPM</i>	600
<i>Minimum Duty Cycle</i>	0.5 sec ON / 0.5 sec OFF
<i>Continuous Operation</i>	No overheat at rated load/current
<i>Compatible Controls</i>	RSC-Ai

* Performance is derated when Input is 24VDC

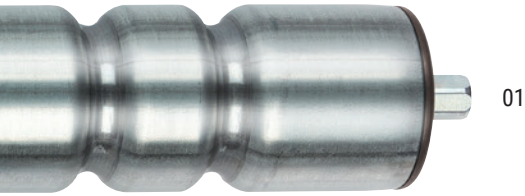


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Technical Data

Interlocking, Lagging, and Coating Options

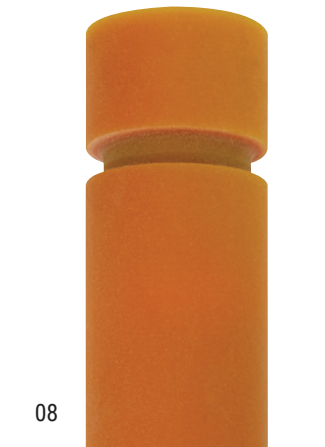
Interlocking Options

- 01 Dual Groove
- 02 Micro-V
- 03 Plain Straight
- 04 Round Groove Pulley



Lagging & Coating Options

- 05 Kastalon Sleeve (orange)
- 06 Kastalon Sleeve (black)
- 07 Grey PVC Sleeve
- 08 Custom Machined Coatings*

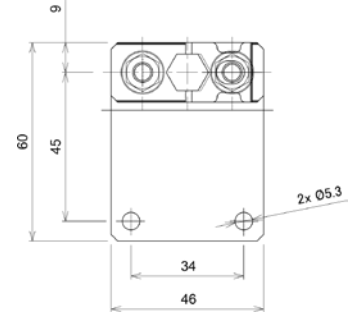
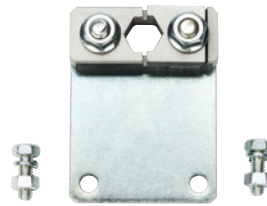


* Contact sales@pulseroller.com for custom coating material options

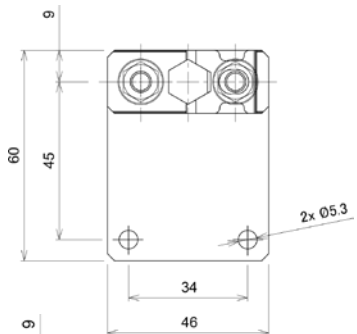
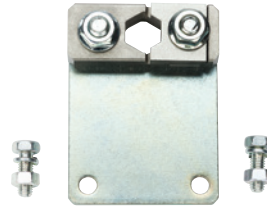
Motor End Fixing Brackets

A fixing bracket is included with each roller. You must specify fixing bracket part number when ordering roller.

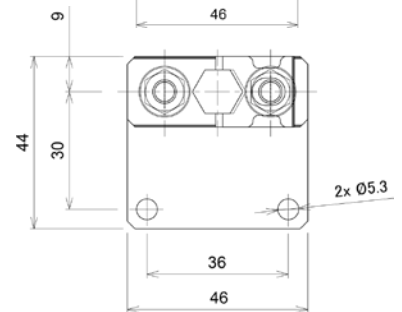
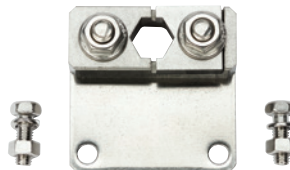
Standard Flat Up
PR-D-30H-FU-N



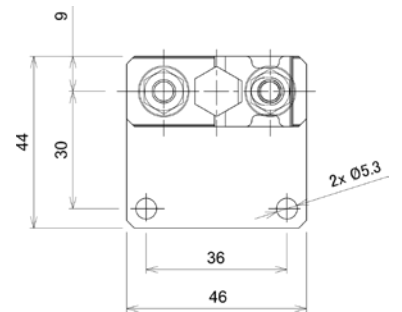
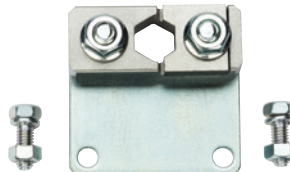
Standard Point Up
PR-D-30H-PU-N



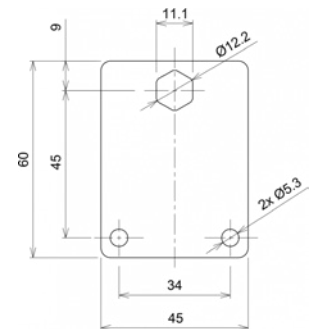
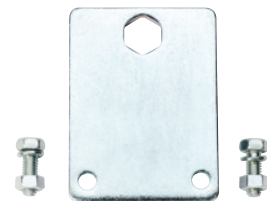
Short Flat Up
PR-D-30H-FU-N-ST



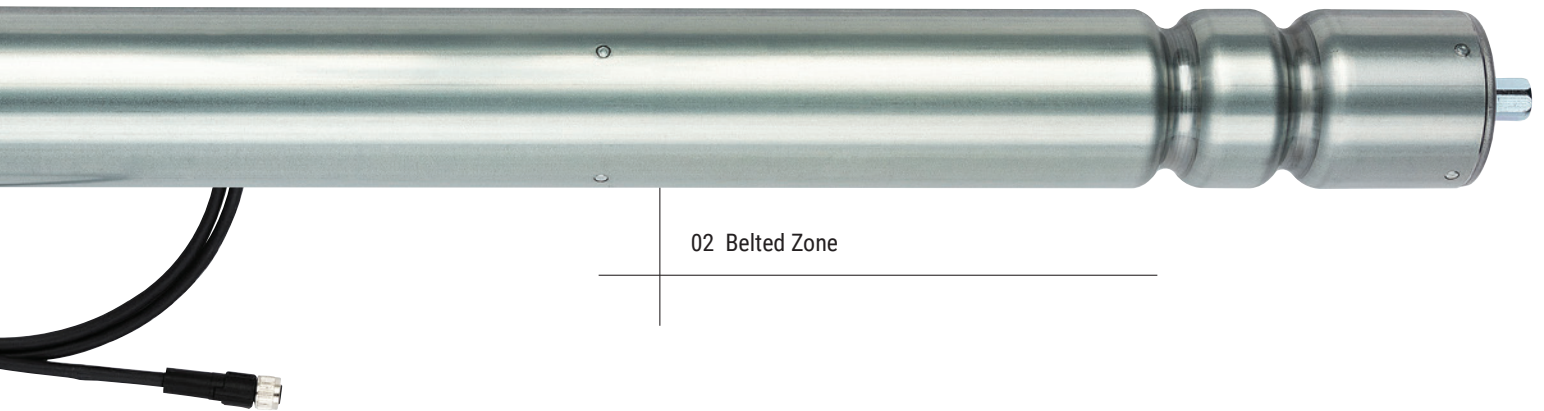
Short Point Up
PR-D-30H-PU-N-ST



Idler End Point Up
MR-DC-30P



Application Specific Options



01 Mechanical Holding Brake - PR-BD

This model includes a failsafe mechanical holding brake for the motor shaft. Applicable controllers utilize a dedicated pin on the motor connector to energize the brake coil to release. The controller automatically de-energizes the brake coil after motor deceleration.

02 Belted Zone - PR-AD Custom Option B

This model option includes double bearing design with pinned end plate construction to provide extra support for higher pulling tension applications such as belted conveyor zones.

03 Dual Drive - PR-DD

This model includes dual Senergy drive engines with a common mechanical intermediate plate. The resulting speed and torque performance is approximate 1.9 times that of a single PR-AD model.

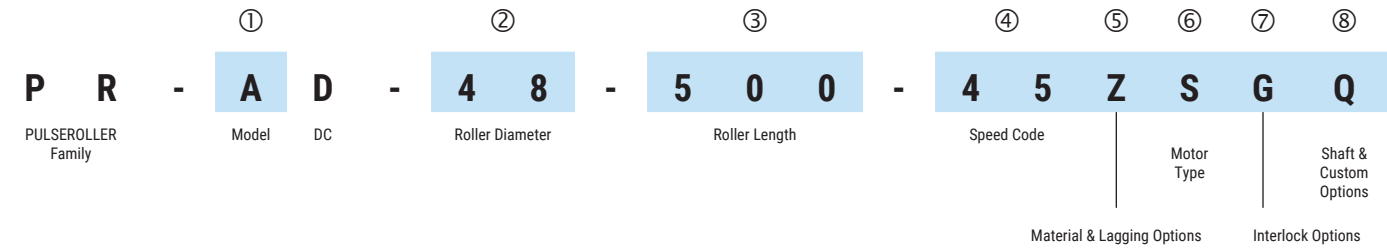
04 Freezer Rated - PR-ZD

This model includes components and gearbox lubrication rated for temperatures down to -30°C (-22°F).



Ordering Information

Part Number Definition for Senergy / Senergy-Ai / Senergy-Ai-48 Motor Rollers



① Model

- | | |
|--|--|
| A - Standard | B - Built-in Brake |
| D - Dual Drive | V - NSF Certified Wash-Down (IP66 w/ NBR seals) |
| W - Wash-Down Rated (IP66 w/ NBR seals) | Q - Enhanced Wash-Down (IP69K w/ Viton seals) |
| Z - Freezer Rated | |

② Roller Diameter

- | | |
|----------------------------|-----------------------------|
| 48 - 48.6 mm (1.9") | 60 - 60.5 mm (2.38") |
| 50 - 50 mm (1.97") | |

③ Roller Length (mm) - Available in 1 mm increments

Formulas for **Roller Length (RL)** based upon **Between Frame (BF)** dimension for proper clearance

For Interlocking Options **A** and **G**: $RL = BF - 8mm$ - Customer Required Clearance

For Interlocking Options **H** and **F**: $RL = BF - 35mm$ - Customer Required Clearance

For most conveyor applications, Customer Required Clearance = 2mm

④ Speed Code

Select Speed Code from Model specific Performance Charts

⑤ Tube Materials and Lagging Options

- | | |
|---|---------------------------------|
| Z - Steel, Zinc Plating, No Lagging (Standard for Roller Diameters 48 and 50) | |
| A - Steel Unichrome Plating, No Lagging (Standard for Roller Diameter 60) | |
| A - Stainless Tube (Standard for Models V , W and Q) | |
| J - Stainless Tube (Option for Models A , D , B , and Z) | |
| B - 3 mm Black Rubber Lagging | |
| W - ½ in. (3.18 mm) Urethane Lagging | Q - 2 mm Grey PVC Sleeve |
| K - ½ in. (3.18 mm) Kastalon Orange Sleeve | Y - Special |

⑥ Motor Type

- | | |
|---|--|
| S - Senergy (DC24V JST Connector) | M - Senergy-Ai (DC24V 4-Pin M8 Connector) |
| X - Senergy-Ai-48 (DC48V 4-Pin M8 Connector) | |

⑦ Interlocking Options

- | | |
|---|--------------------------------|
| A - Plain Straight (no interlocking) | G - Round Grooves |
| H - Micro-V Pulley | F - Round Groove Pulley |
| Y - Special | |

⑧ Shaft &/or Custom Options (Motor End / Idler End)

- | | |
|---|---|
| Q - Non-Threaded Hex / Spring Loaded Hex | B - Double Bearing Pinned Construction |
| P - M12 Threaded Hex / Spring Loaded Hex | Y - Special |

Washdown Options

Senergy,[®] Senergy-Ai, & PGD-Ai

Ability to weather the storm. Tube material is SUS304 rated stainless steel with SUS303 rated stainless steel for bearings and shafts.

- IP66 model with nitrile o-rings and oil seals
- IP69K model with viton o-rings and oil seals
- IP66 non-powered idler available



FEATURES

- Brushless 24V DC motor
- Full Ai-Technology available
- External motor controller
- High overload capacity
- High starting torque
- 4-pin M8 standard connector available
- Optional viton seals for caustic environment

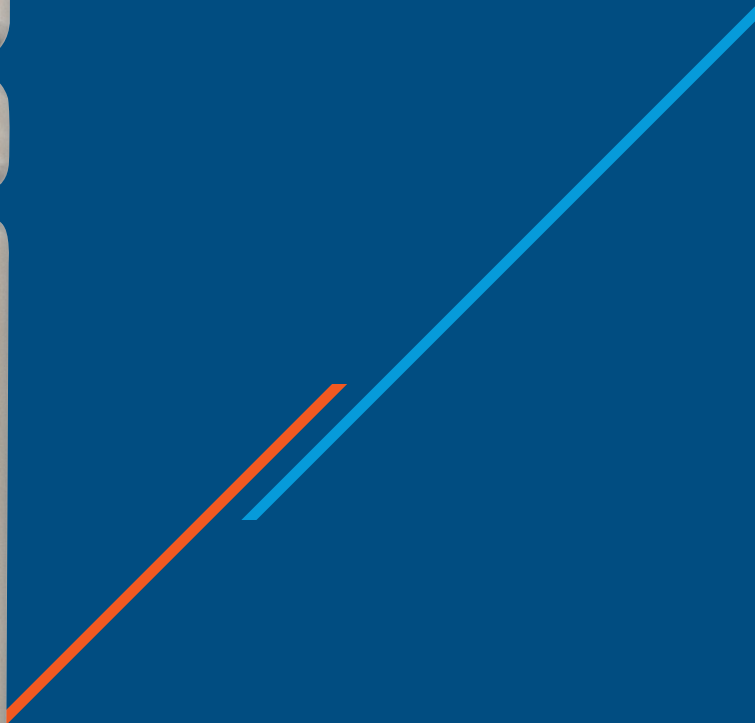
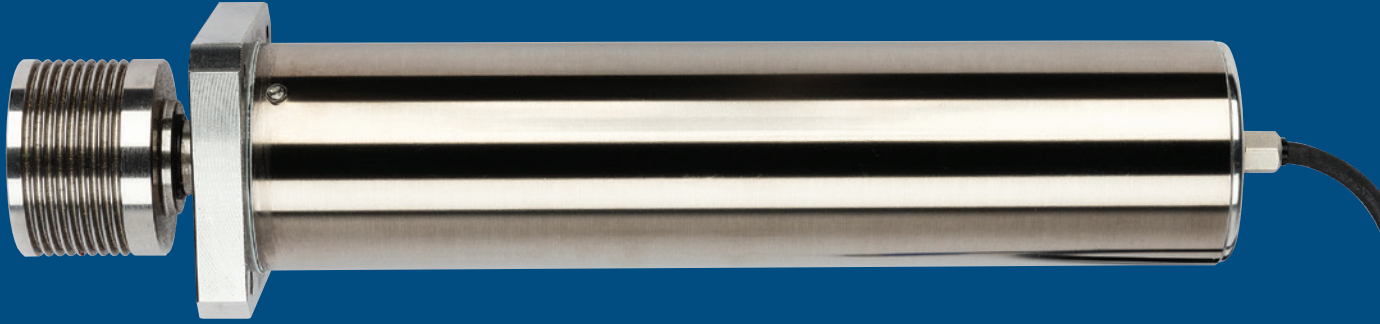


Certified Washdown Rated Motor Roller and Idler

- Round Groove and Plain Straight Only
- 24V & 48V Options Available
- 800 mm Maximum Length
- IP66 Ingress Protection

Scan for More
Technical Data





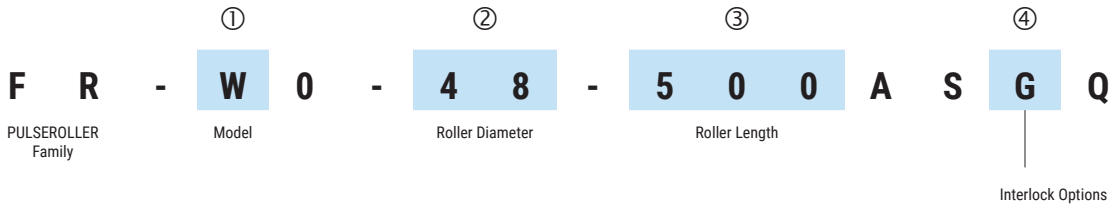
Washdown Idler

General Specifications	Washdown Idler	NSF Washdown Idler
Available Tube Diameters	48.6 mm (1.9") 50 mm (1.97")	
Minimum Tube Length	200 mm	
Maximum Tube Length	1000 mm	800 mm
Tube Material	Stainless Steel - SUS304	
Bearings & Shaft Materials	Stainless Steel SUS303	
Ingress Protection	IP66 (Model W) IP69K (Model Q)	IP66
O-Ring & Seals Material	Nitrile (Model W) Viton (Model Q)	Nitrile
Ambient Temperature	-10 ~ 40°C (14 ~ 104°F) (No Condensation)	
Ambient Humidity	10 ~ 90% RH (No Condensation)	



Ordering Information

Part Number Definition for Washdown Idler Rollers



① Model

W - Wash-Down Rated (IP66 w/ NBR seals)

V - NSF Certified Wash-Down (IP66 w/ NBR seals)

Q - Enhanced Wash-Down (IP69K w/ Viton seals)

② Roller Diameter

48 - 48.6 mm (1.9")

50 - 50 mm (1.97")

③ Roller Length (mm) - Available in 1 mm increments

Formulas for **Roller Length (RL)** based upon **Between Frame (BF)** dimension for proper clearance

For Interlocking Options **A** and **G**: $RL = BF - 8mm - \text{Customer Required Clearance}$

For Interlocking Option **H**: $RL = BF - 35mm - \text{Customer Required Clearance}$

For most conveyor applications, *Customer Required Clearance = 2mm*

④ Interlocking Options

A - Plain Straight (no interlocking)

G - Round Grooves

H - Micro-V Hub (Not available for Model **V**)



Senergy-IDC

Pulseroller **Senergy-IDC (Internal Drive Commutation)** motor rollers are designed to be drop-in compatible with many **3rd party motor controllers**. The Senergy-IDC utilizes the same robust and reliable motor and gearbox construction used in all Senergy products. Available in Pulse Geared Drive (PGD) and MDR versions.

BENEFITS

- Drop in Replacement
- Excellent longevity
- Operates with Existing Controls

FEATURES

- Brushless 24V DC motor
- High overload capacity
- High starting torque
- 5-pin M8 standard connector



Senergy-IDC	
Available Tube Diameters	48.6 mm (1.9") 50 mm (1.97")
Maximum Tube Length*	1000 mm
Motor Cable Length	500 mm
Motor Controller Connection	5 Pin M8
Washdown Model Available	Yes
Mechanical Brake Option	No
Ambient Temperature	-10 ~ 40°C (14 ~ 104°F) (No Condensation)
Ambient Humidity	10 ~ 90% RH (No Condensation)
Certifications	CE, UKCA
Input Voltage	24 VDC
Nominal Power Output	38W
Rated Current	2.4A
Starting Current	3.0A
Maximum Motor RPM	5800
Minimum Motor RPM	580
Minimum Duty Cycle	0.5 sec ON / 0.5 sec OFF
Continuous Operation	At rated load/current

* Contact Pulseroller for longer length applications

**Performance Data - Senergy-IDC 24V
Internal Drive Commutation
48.6 mm Dia.**

Speed Code	Gear Box Stages	Gear Ratio	Speed Range		Torque			
			Min	Max	Rated	Accel	Starting	
15	3	45	0.03	~ 0.33	2.7	4.2	10.3	
			6.6	~ 65.0	23.9	36.7	91.2	
20	3	33	0.04	~ 0.45	2.0	3.0	7.5	
			7.9	~ 88.6	17.7	26.8	66.4	
35	2	55/3	0.08	~ 0.81	1.1	1.8	4.2	
45		15		15.7	~ 159.4	9.7	16.3	37.2
				0.10	~ 0.98	0.9	1.5	3.4
60		11	19.7	~ 192.9	8.0	13.4	30.1	
95	1	75/11	0.13	~ 1.34	0.6	1.1	2.5	
			25.6	~ 263.8	5.3	9.7	22.1	
			0.22	~ 2.16	0.4	0.8	1.5	
			43.3	~ 425.2	3.5	6.6	13.3	

Rated Current 2.4A **Starting Current** 3.0A

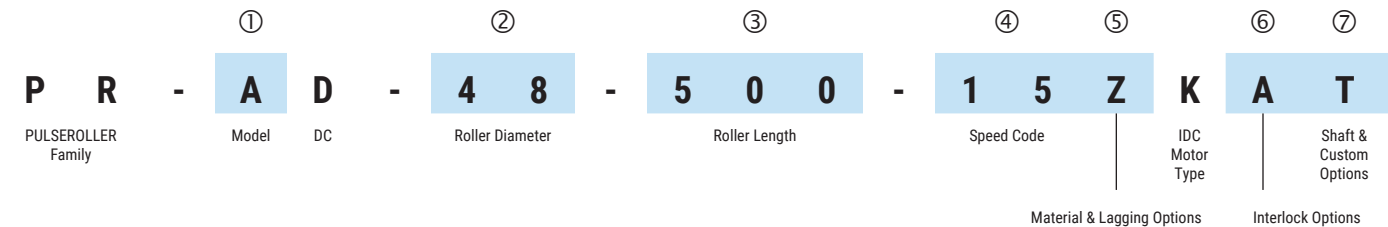
**Performance Data - Senergy-IDC PGD 24V
All Models**

Nominal Gear Ratio	Gear Box Stages	Actual Gear Ratio	Output Shaft Speed		Torque		
			Min	Max	Rated	Accel	Starting
11	2	11	52	~ 528	0.6	1.1	2.5
					5.3	9.7	22.1
15	2	15	38	~ 386	0.9	1.5	3.4
					8.0	13.4	30.1
18	2	55/3	31	~ 316	1.1	1.8	4.2
					9.7	16.3	37.2
33	3	33	17	~ 176	2.0	3.0	7.5
					17.7	26.8	66.4
45	3	45	12	~ 128	2.7	4.2	10.3
					23.9	36.7	91.2

Rated Current 2.4A **Starting Current** 3.0A

Ordering Information

Part Number Definition for Senergy-IDC 24V Internal Drive Control Motor Rollers



① Model

A - Standard

Z - Freezer rated (-30°C / -22°F)

② Roller Diameter

48 - 48.6 mm (1.9")

50 - 50 mm

③ Roller Length (mm) - Available in 1 mm increments

Formulas for **Roller Length (RL)** based upon **Between Frame (BF)** dimension for proper clearance

For Interlocking Options **A** and **G**: $RL = BF - 9mm$

For Interlocking Options **H** and **F**: $RL = BF - 36mm$

④ Speed Code

Select *Speed Code* from Model specific *Performance Charts*

⑤ Tube Materials and Lagging Options

Z - Standard Mild Steel, Zinc Plating, No Lagging

J - Stainless Tube

B - 3 mm Black Rubber Lagging

W - ½ in. (3.18 mm) Urethane Lagging

Y - Special

⑥ Interlocking Options

A - Plain Straight (no interlocking)

H - Micro-V Hub

G - Round Grooves

F - Round Groove Pulley

Y - Special

⑦ Shaft Options (Motor End / Idler End)

T - M12 Threaded Hex / M8 Female Threaded

P - M12 Threaded Hex / Spring Loaded Hex

Y - Special



Scan for More
Technical Data

Senergy-HBR

Holding Brake Roller with Senergy-Ai technology The HBR is a **non-motorized** roller that contains a mechanical **holding brake** to allow you provide failsafe zone braking functionality previously unavailable with Senergy-Ai technology. Simply plug the HBR into any open motor port on ConveyLinx-Ai (24V or 48V) family controllers and the HBR will function **without any set-up required**.

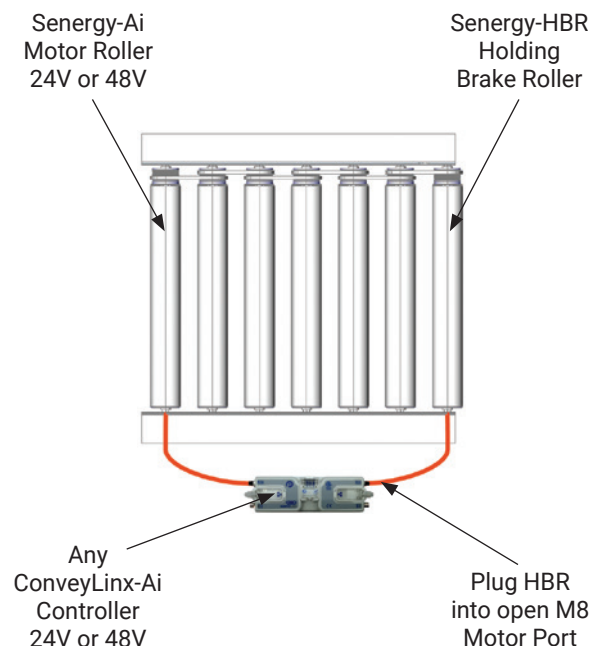
General Specifications	HBR
Available Tube Diameters	48.6 mm (1.9") 50 mm (1.97") 60.5 mm (2.38")
Maximum Tube Length	1000 mm
Cable Length	1000 mm
Motor Controller Connection	4 Pin M8
Washdown Model Available	Yes
Freezer Rated Model Available	Yes
Mechanical Brake Option	Standard
Ambient Temperature	-10 ~ 40°C (14 ~ 104°F) (No Condensation)
Ambient Humidity	10 ~ 90% RH (No Condensation)
Certifications	CE, UKCA, RoHS, IP54
Input Voltage	24/48 VDC
Minimum Duty Cycle	0.5 sec ON / 0.5 sec OFF
Compatible Controls	ConveyLinx-Ai2 ConveyLinx-Ai3-24-FC ConveyLinx-Ai3-24-RC MotionLinx-Ai ConveyLinx-Ai2-48 ConveyLinx-Ai3-48-FC

BENEFITS

- Provides failsafe brake for Senergy-Ai systems
- No set-up or configuration required
- Same robust mechanical components as Senergy MDRs

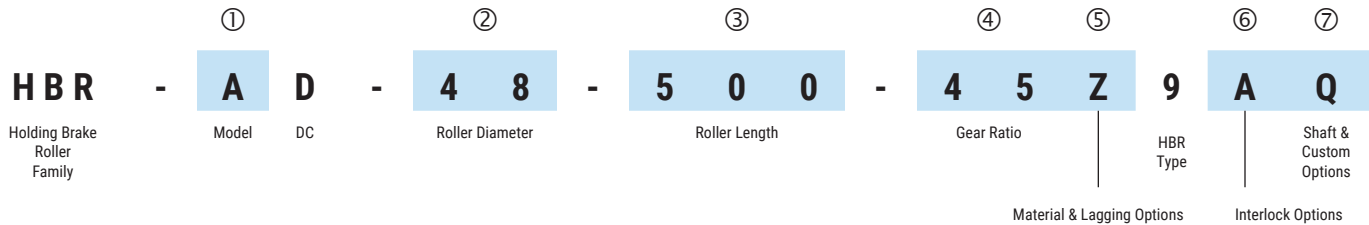
FEATURES

- Failsafe operation
- 3 gearbox ratios to match powered roller operation
- Plugs into open ConveyLinx-Ai motor port



Ordering Information

Part Number Definition for Holding Brake Roller



① Model

A - Standard

Q - Wash-Down Rated (IP69K)

W - Wash-Down Rated (IP66)

② Roller Diameter

48 - 48.6 mm (1.9")

50 - 50 mm

③ Roller Length (mm) - Available in 1 mm increments

Formulas for **Roller Length (RL)** based upon **Between Frame (BF)** dimension for proper clearance

For Interlocking Options **A** and **G**: $RL = BF - 8mm$ - Customer Required Clearance

For Interlocking Options **H** and **F**: $RL = BF - 35mm$ - Customer Required Clearance

For most conveyor applications, Customer Required Clearance = 2mm

④ Gear Ratio

45 - 45:1 Gear Ratio for use with MDR Speed Codes 15, 20, and 25

18 - 18:1 Gear Ratio for use with MDR Speed Codes 35, 45, and 60

11 - 11:1 Gear Ratio for use with MDR Speed Code 75

⑤ Tube Materials and Lagging Options

Z - Steel, Zinc Plating, No Lagging

A - Stainless Tube (Standard for Models **Q** and **W**)

J - Stainless Tube (Option for Model **A**)

B - 3 mm Black Rubber Lagging

W - ½ in. (3.18 mm) Urethane Lagging

Q - 2 mm Grey PVC Sleeve

K - ½ in. (3.18 mm) Kastalon Orange Sleeve

Y - Special

⑥ Interlocking Options

A - Plain Straight (no interlocking)

H - Micro-V Hub

G - Round Grooves

F - Round Groove Pulley

Y - Special

⑦ Shaft Options (Motor End / Idler End)

Q - Non-Threaded Hex / Spring Loaded Hex

T - M12 Threaded Hex / M8 Female Threaded

P - M12 Threaded Hex / Spring Loaded Hex

Y - Special

F - Non-Threaded Hex / M8 Female Threaded

Pallet Handling Rollers

Pulseroller 24V Pallet handling rollers take advantage of our proven robust all metal gearbox and reinforced construction methods, to manufacture heavy duty rollers for pallet handling applications.



Pallet-Ai model utilizes all the features and benefits of Ai technology.

Performance Data - Senergy/Senergy-Ai Pallet Handling 24V
All Models ①
63.5 mm (2.5") Dia.
BOOST & BOOST 8 Mode

Speed Code	Gear Box Stages	Gear Ratio	Speed Range m/s ft/min		Rated	Torque N-m in-lbs	
			Min	Max		BOOST Starting	BOOST-8 Starting
8	3	9075/99	0.02 ~ 0.15		10.9	43.3	49.3
			4.3 ~ 30.2	96.5	383.2	436.3	
10		605/9	0.03 ~ 0.21		8.0	31.8	36.1
			5.6 ~ 41.0	70.8	281.4	319.5	
15	45	0.04 ~ 0.31		5.4	21.3	24.3	
20	33	0.06 ~ 0.42		3.9	15.6	17.7	
		11.5 ~ 83.3	34.5	138.1	156.6		

Rated Current	BOOST Starting Current	BOOST-8 Starting Current
3.5A	5.0A	8.0A



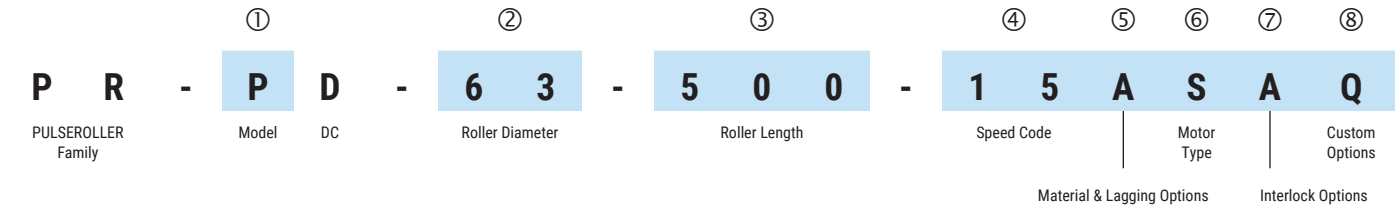
General Specifications	Pallet Handling	Pallet Handling-Ai
Available Tube Diameters	60.5 mm (2.38") 63.5 mm (2.5")	
Maximum Tube Length	1800 mm	
Motor Cable Length	600 mm	1000 mm
Motor Controller Connection	9 Pin JST	4 Pin M8
Washdown Model Available	Yes (60.5 mm Only up to 600 mm length)	
Mechanical Brake Option	Yes	No
Ambient Temperature	-10 ~ 40°C (14 ~ 104°F) (No Condensation)	
Ambient Humidity	10 ~ 90% RH (No Condensation)	
Certifications	CE, UKCA UL Recognized to UL 1004-1 ETL Listed to UL 1004-1 & UL 1004-6	
Input Voltage	24 VDC	
Nominal Power Output	40W (50W in Boost Mode)	
Rated Current	2.5A (3.5A in Boost Mode)	
Starting Current	5A Boost Mode / 8A Boost-8 Mode	
Maximum Motor RPM	5800 ECO / 4200 Boost & Boost-8	
Minimum Motor RPM	580	
Minimum Duty Cycle	0.5 sec ON / 0.5 sec OFF (1.5 sec OFF when in Boost-8 Mode)	
Continuous Operation	At rated load/current in ECO Mode	
Compatible Controls	ConveyLinx ConveyLinx-HTF ConveyLinxE ConveyLinxE-HTF E-QUBE EZ-QUBE EZ-QUBE-W EZ-QUBE-HTBF	ConveyLinx-Ai2 ConveyLinx-Ai3-24-FC ConveyLinx-Ai3-24-RC MotionLinx-Ai E-QUBE-Ai EZ-QUBE-W-Ai



Scan for More Technical Data

Ordering Information

Part Number Definition for Senergy / Senergy-Ai Pallet Handling Motor Rollers



① **Model**

P - Standard Pallet Handling

M - Pallet Handling Wash-Down Rated (IP66)

② **Roller Diameter**

60 - 60.5 mm (2.38")

63 - 63.5 mm (2.5")

③ **Roller Length (mm) - Available in 1 mm increments**

Formulas for **Roller Length (RL)** based upon **Between Frame (BF)** dimension for proper clearance

For Interlocking Options **A** and **D**: $RL = BF - 21 \text{ mm} - \text{Customer Required Clearance}$

For Interlocking Option **H**: $RL = BF - 74 \text{ mm} - \text{Customer Required Clearance}$

For most conveyor applications, Customer Required Clearance = 2mm

④ **Speed Code**

Select *Speed Code* from Model specific *Performance Charts*

⑤ **Tube Materials and Lagging Options**

A - Standard Mild Steel, Zinc Plating, No Lagging

J - Stainless Tube (Available for Roller Diameter **60** only)

B - 3 mm Black Rubber Lagging

W - 1/8 in. (3.18 mm) Urethane Lagging

Y - Special

⑥ **Motor Type**

S - Senergy (DC24V JST Connector)

M - Senergy-Ai (DC24V 4-Pin M8 Connector)

⑦ **Interlocking Options**

A - Plain Straight (no interlocking)

H - Micro-V Hub

D - Dual Sprockets

Y - Special

⑧ **Custom Options**

Q - Standard

Y - Special

Pulse Geared Drive

PGD, PGD-Ai, & PGD-Ai-48

PGDs can be used to replace pneumatic and AC drives in conveyor applications to standardize controls and bus systems for higher efficiency and simplification of complex projects. All **PDG** models are available for **24V** power and **PGD-Ai-48** model is available for **48V** power.

Basic idea behind the PGD models is the fact that there are often many more motors in conveyor systems than just the motorized roller. With the PGD's compact and strong gear motor, it can fit seamlessly into the controls architecture of the motor rollers. **No pneumatics** or any secondary communication bus interface is required.

The advantage of this is that the mechanical and electrical design of the conveyor system as a whole gets less expensive, easier to maintain, and more straightforward. Virtually all functionality required in conveyors are now controlled and driven by Pulseroller products. In most cases, pneumatic actuators can be completely replaced.

Compactness is the key for PGD models to be applied in many different applications such as servo motor for pop up wheels, in transfers as belt drive or lift motor, and as a general purpose actuator. This mechanical convenience along with the **advanced positioning control** capabilities of ConveyLinx makes the PGD models a perfect solution.

BENEFITS

- Servomotor for conveyor applications
- Replaces pneumatics
- Versatile application
- Same control like Senergy/Senergy-Ai
- One control for all motion in conveyor
- Space saving design

FEATURES

- Brushless 24V DC motor
- Double bearing output shaft
- Full Ai-Technology available
- External motor controller
- High overload capacity
- High starting torque
- Standard 4-Pin M8 connector with Ai option
- Internal Data memory with Ai option





Performance Data - Senergy-PGD/Senergy-PGD-Ai 24V
All Models
BOOST & BOOST-8 Modes

Nominal Gear Ratio	Gear Box Stages	Actual Gear Ratio	Output Shaft Speed RPM		Torque N-m in-lbs			
			Min	Max	Rated	BOOST Starting	BOOST-8 Starting	
67	3	605/9	8.50	~	62.70	8.0	31.8	36.1
						70.8	281.4	319.5
						4.5	21.3	24.3
						47.8	188.5	215.1
45	3	45	12.80	~	93.30	5.4	21.3	24.3
						47.8	188.5	215.1
						3.9	15.6	17.7
33	3	33	17.40	~	127.50	34.5	138.1	156.6
						3.2	12.8	14.5
27	3	27	21.30	~	155.50	28.3	113.3	128.3
18	2	55/3	31.40	~	229.50	2.1	8.6	9.8
						18.6	76.1	86.7
						1.8	7.1	8.1
						15.9	62.8	71.7
15	2	15	38.40	~	280.00	1.3	5.2	5.9
						11.5	46.0	52.2
11	2	11	52.40	~	382.50	1.0	4.2	4.8
						8.9	37.2	42.5
9	2	9	64.00	~	466.60			
Rated Current		BOOST Starting Current		BOOST 8 Starting Current				
3.5A		5.0A		8.0A				

Performance Data - Senergy-PGD/Senergy-PGD-Ai 24V
All Models
ECO Mode

Nominal Gear Ratio	Gear Box Stages	Actual Gear Ratio	Output Shaft Speed RPM		Torque N-m in-lbs	
			Min	Max	Rated	Starting
67	3	605/9	8.50	~ 86.70	4.4	24.4
					38.9	215.9
45		45	12.80	~ 129.00	2.9	16.3
					25.7	144.3
33	3	33	17.40	~ 176.30	2.1	12.0
					18.6	106.2
27		27	21.30	~ 215.10	1.7	9.8
				15.0	86.7	
18	2	55/3	31.40	~ 317.30	1.2	6.6
					10.6	58.4
15		15	38.40	~ 387.20	0.9	5.4
					8.0	47.8
11	2	11	52.40	~ 528.90	0.7	4.0
					6.2	35.4
9	2	9	64.00	~ 645.30	0.5	3.2
					4.4	28.3
Rated Current		Starting Current				
2.5A		3.0A				

Performance Data - Senergy-PGD-Ai-48V

Nominal Gear Ratio	Gear Box Stages	Actual Gear Ratio	Output Shaft Speed RPM		Torque N-m in-lbs	
			Min	Max	Rated	Holding
45	3	45	12.89	~ 155.56	2.95	7.94
					26.1	70.3
33		33	17.61	~ 212.51	2.16	5.82
				19.1	51.5	
27	3	27	21.48	~ 259.26	1.25	3.10
					11.1	27.4
15	2	15	38.67	~ 466.67	1.02	2.54
					9.0	22.5
11	2	11	52.82	~ 637.52	0.75	1.86
					6.6	16.5
Rated Output		Rated Current				
50W		1.6A				

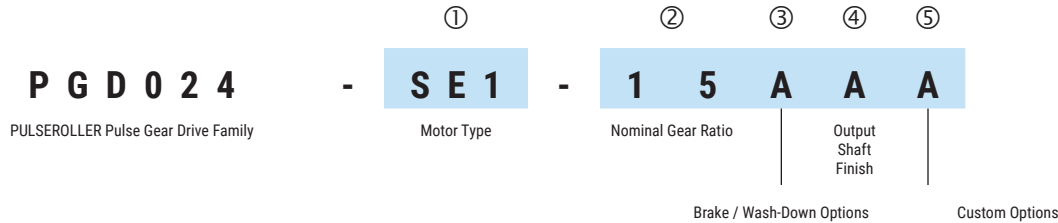
General Specifications	PGD	PGD-Ai	PGD-Ai-48	PGD-IDC
Shaft Diameter	16 mm			
Keyway	5 x 5 x 25 mm			
Motor Cable Length	600 mm	1000 mm		600 mm
Motor Controller Connection	9 Pin JST	4 Pin M8		5 Pin M8
Washdown Model Available	No	Yes		No
Mechanical Brake Option	Yes	No		No
Ambient Temperature	-10 ~ 40°C (14 ~ 104°F) (No Condensation)			
Ambient Humidity	10 ~ 90% RH (No Condensation)			
Certifications	CE, UKCA, RoHS, IP54 UL Recognized to UL 1004-1 ETL Listed to UL 1004-1 & UL 1004-6			CE, UKCA, RoHS, IP54
Input Voltage	24 VDC		48 VDC	24VDC
Nominal Power Output	40W (50W in Boost Mode)		50W	38W
Rated Current	2.5A (3.5A in Boost Mode)		1.6A	2.4A
Starting Current	5A Boost Mode / 8A Boost-8 Mode		4.0A	3.0A
Maximum Motor RPM	5800 ECO / 4200 Boost & Boost-8		7000	5800
Minimum Motor RPM	580			
Minimum Duty Cycle	0.5 sec ON / 0.5 sec OFF (1.5 sec OFF when in Boost-8 Mode)		0.5 sec ON / 0.5 sec OFF	
Continuous Operation	At rated load/current in ECO Mode		No overheat at rated load/current	
Compatible Controls	ConveyLinx ConveyLinx-HTF ConveyLinxE ConveyLinxE-HTF E-QUBE EZ-QUBE EZ-QUBE-W EZ-QUBE-HTBF	ConveyLinx-Ai2 ConveyLinx-Ai3-24-FC ConveyLinx-Ai3-24-RC MotionLinx-Ai E-QUBE-Ai EZ-QUBE-W-Ai	ConveyLinx-Ai2-48 ConveyLinx-Ai3-48-FC	Any 3rd Party Control that provides: Pin 1: +24V Pin 2: Direction Pin 3: Gnd Pin 4: Error Pin 5: Analog Speed



ALSO AVAILABLE IN IDC CONFIGURATION

Ordering Information

Part Number Definition for PGD / PGD-Ai / PGD-Ai-48 / PGD-IDC Gear Drives



① Motor Type

SE1 - PGD (DC24V JST Connector)

SE2 - PGD-Ai (DC24V 4-Pin M8 Connector)

SE3 - PGD-Ai-48 (DC48V 4-Pin M8 Connector)

SE4 - PGD-IDC (DC24V 5-Pin M8 Connector)

② Nominal Gear Ratio

Select *Nominal Gear Ratio* from *Motor Type specific Performance Charts*

③ Brake / Wash-Down Options

A - 24V Standard (No Brake or Wash-Down)

B - Holding Brake (Available for Motor Type **SE1** only)

W - Wash-Down (Available for Motor Type **SE2** and **SE3** only)

④ Output Shaft Finish

A - Standard Key-Way (no attachment)

H - Pre-Installed Micro-V Hub (Available for Wash-Down **W** option only)

⑤ Custom Options

A - Standard

Y - Special



MICRO-V PULLEY ASSEMBLY AVAILABLE



Scan for More
Technical Data

PDU-90

90° Right Angle Transfer

Customized design based on standardized functionality.

The **Pulse Divert Unit PDU-90** is the ideal right angle transfer that fits into standard roller conveyors without modifications. The PDU-90 utilizes all electric 24V/48V components and eliminates the need for any costly pneumatic actuators.

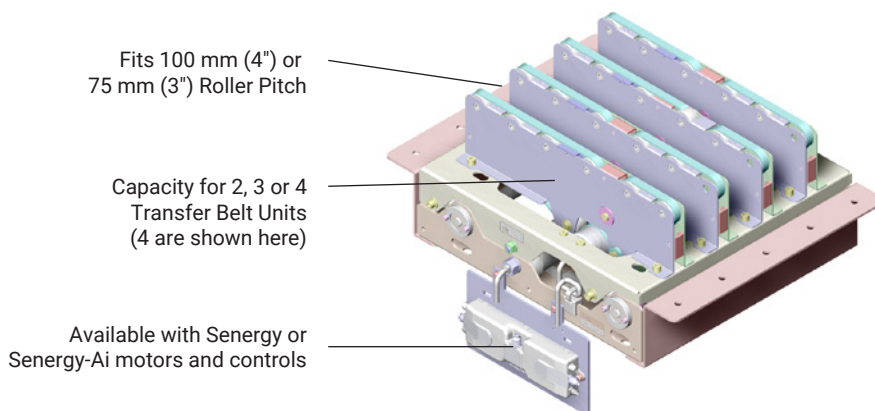
The PDU-90 is a highly efficient and compact right angle transfer. Standardized and modular components allow for simple integration to your controls platform saving you time and money.

BENEFITS

- Seamless integration in Pulseroller applications
- Transfer independent from conveyor
- Low profile design
- High throughput
- Simple maintenance

FEATURES

- Modular Belt transfer
- No pneumatics required
- Controlled by ConveyLinx/ConveyLinx-Ai/MotionLinx
- Modular design
- Strong and oversized mechanical design
- Optional freezer rated version



Scan for More
Technical Data





Technical Data

Voltage	24V or 48V DC
Roller Pitch Options ¹	75 mm, 3", 90 mm, and 4"
Max Load	50 kg (≈110 lbs)
Belt Speed	60 m/min (≈196 ft/min)
Lift-up Stroke	15 mm (≈ 0.6")
Throughput ²	1500 / h
Minimum Dimensions	W360 x L380 (For 380 mm or ≈ 15" BF)
Maximum Dimensions	W960 x L800 (For 820 mm or ≈ 32" BF)
Ambient Temperature	-10°C ~ 40°C (14 ~ 104°F) (No condensation)
Ambient Humidity	10 ~ 90% RH (No condensation)

¹ Contact PulseRoller for irregular or non standard roller pitch

² Throughput can vary depending upon product size and control algorithm

Pulse PopUp

30° and 45° Diverter

The PPU is a highly efficient and compact divert solution.

PPU is offered in 45° (PPU-45) and 30° (PPU-30) and can be configured for either left or right discharge. Pulse PopUp Units (PPU-45/30) easily mount under your existing conveyor frame and take advantage of Pulseroller components, eliminating the need for any costly pneumatic actuators. Standardized and modular components allow for simple integration to your controls platform saving you time and money.



BENEFITS

- Seamless integration in Pulseroller applications
- Machine independent from conveyor
- High throughput
- Easy installation

FEATURES

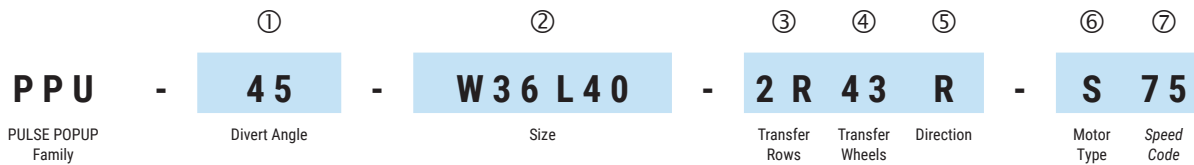
- Choose 30° or 45° divert
- Compact design
- Bolt-in installation takes minutes
- Fully MDR driven (no pneumatics)
- Low maintenance – no lubrication requirements
- Effectively create a sortation conveyor

Technical Data

Dimensions (L x W mm)	# of Driving Wheels	Load Size Min (L x W mm)	Load Size Max (L x W mm)	Load Weight Max	Max Sorting Speed	Throughput
440 x 388 mm	4	300 x 200 mm (≈12" x 8")	600 x 450 mm (≈ 23" x 18")	30 kg (≈ 66 lbs)	Up to 90 m/min with a 75 speed code (≈ 195 ft/min)	Up to 2400/hour depending on product size
440 x 488 mm	5					
440 x 588 mm	6					
440 x 688 mm	7					

Ordering Information

Part Number Definition for PPU-45 / PPU-35 Pulse PopUp Diverter



- ① **Divert Angle**
30 - 30°
45 - 45°

- ② **Size**
W36 L40 - Width 440 mm x Length 388 mm
W36 L50 - Width 440 mm x Length 488 mm
W36 L60 - Width 440 mm x Length 588 mm
W36 L70 - Width 440 mm x Length 688 mm

- ③ **Transfer Rows**
2R - 2 Rows of Wheels

- ④ **Transfer Wheels**
43 - 4 Wheels x 3 Wheels
54 - 5 Wheels x 4 Wheels
65 - 6 Wheels x 5 Wheels
76 - 7 Wheels x 6 Wheels

- ⑤ **Divert Direction**
R - Right
L - Left

- ⑥ **Motor Type**
S - Senergy (DC24V JST Connector)
X - Senergy-Ai-48 (DC48V 4-Pin M8 Connector)
M - Senergy-Ai (DC24V 4-Pin M8 Connector)

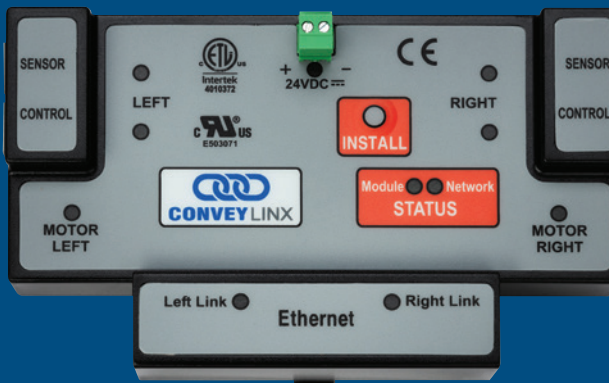
- ⑦ **Speed Code**
75 - Standard for Motor Types **S** and **M**
45 - Standard for Motor Type **X**



ConveyLinX



ConveyLinX-HTF



ConveyLinX-E

ConveyLinx

Simplified complexity. Pulsroller ConveyLinx was the first Ethernet based networked motor roller conveyor controller when it was released over a decade ago and today it still provides the standard upon which others are measured. ConveyLinx provides automatic push-button installation and configuration for fast and simple installation and commissioning of motor roller conveyor systems.

Out of the box, **ConveyLinx** provides automatic zero-pressure accumulation (**ZPA**) conveyor control. Using Pulsroller's complimentary **EasyRoll** software, you can customize and configure the built-in ZPA functionality to your application. With ConveyLinx working in ZPA mode, you can also connect your **PLC** with a simple interface to receive status as well as control product flow without having to write logic code to make the conveyor operate.

You can go a step further and change **ConveyLinx** to suspend ZPA operation and use it as a **true remote drive control** to your PLC network where **your PLC logic** can direct all of the modules' functions.

Each ConveyLinx module has the ability to communicate with **Ethernet I/P, Profinet I/O, Modbus TCP, and CC-Link IEF Basic** protocols.

ConveyLinx-HTF model provides **BOOST-8** performance capability as well as being **freezer rated** down to -30°C (-22°F).

ConveyLinx-E and **ConveyLinx-E-HTF** models are **ETL** marked versions that are Listed to UL specifications 61010-2 and UL 61010-2-201

BENEFITS

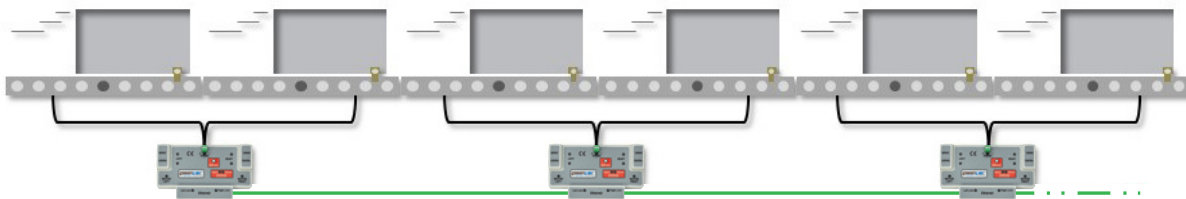
- Small footprint for easy installation in side frame
- 4 Ethernet protocols
- Control of all motion on conveyor
- High flexible application
- Significant reduction of PLC source code
- Fast module replacement

FEATURES

- CE Certified, RoHS Compliant. IP20
- Option for ETL Listed (UL 6101-2 & UL 61010-2-201)
- Provides control for 1 or 2 Zones
- Auto detection of PNP or NPN sensors and light/dark operate when configured for ZPA control
- Single push-button Auto-Configuration
- 3-Port Ethernet switch with standard RJ-45 ports
- 9 Pin JST style header socket for motor connection
- Thermal and overload motor protection
- 4 RJ-11/12 ports for easy plug and play connections
- 8 Tri-colored context sensitive LED indicators
- Simultaneously recognizes Ethernet I/P, Modbus TCP, and Profinet I/O protocols on the same controller
- Motor and ZPA adjustments accessible with EasyRoll Software
- User programmable functionality available with ConveyLogix Software (see Pulsroller.com for details)

ConveyLinx ERSC

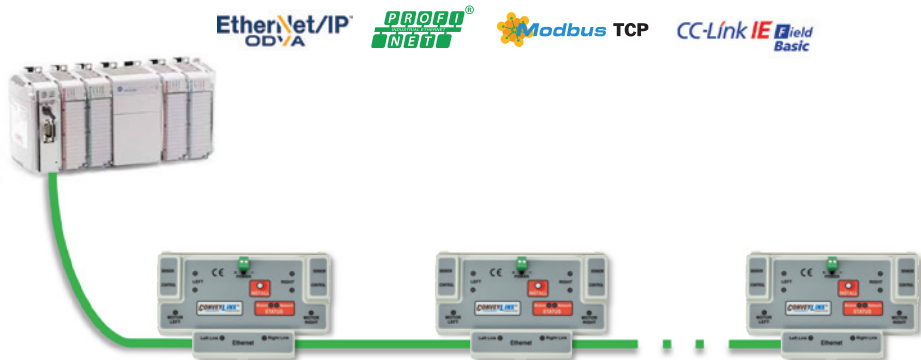
Ethernet Networked Conveyor Control



	ConveyLinx	ConveyLinx-E	ConveyLinx-HTF	ConveyLinxE-HTF
<i>Input Voltage</i>	21 to 28 VDC			
<i>Rated Motor Output Current</i>	2.5A x 2 (ECO) 3.5A x 2 (Boost & Boost-8)			
<i>Available Starting Current</i>	3.0A x 2 (ECO) 5.0A x 2 (Boost & Boost-8)		3.0A x 2 (ECO) 5.0A x 2 (Boost) 8.0A x 2 (Boost-8)	
<i>Power Connection</i>	Unpluggable 2 Pole screw terminal			
<i>Motor Connection</i>	9 Pin JST x 2			
<i>Sensor & I/O Connection</i>	RJ-11/12 x 4			
<i>Network Connection</i>	RJ-45 x 2			
<i>Ambient Temperature</i>	0° ~ 40°C (32° ~ 104°F)		-30° ~ 40°C (-22° ~ 104°F)	
<i>Ambient Humidity</i>	10 ~ 90% RH (No Condensation)			
<i>Vibration</i>	1G or less			
<i>Certifications</i>	CE			
		ETL Listed to UL 61010-2 & UL 61010-2-201		ETL Listed to UL 61010-2 & UL 61010-2-201
<i>Available Networks</i>	Ethernet I/P Profinet IO Modbus TCP CC-Link IEF Basic			
<i>Configuration Software</i>	EasyRoll or EasyRoll +			



Automatically Recognizes Multiple PLC Protocols



PLUG AND PLAY CONNECTIVITY

Plug and Play Connectivity



- RJ-11/12 Receptacle for Sensor
- RJ-11/12 Receptacle for Aux I/O
- 9 Pin JST Style Motor Plug Header
- Standard RJ-45 Ethernet Ports

Scan for More Technical Data



ConveyLinx Ai 24V

ConveyLinx-Ai2, Ai3-24-FC & RC

Superior Connectivity. The **ConveyLinx-Ai2** and **Ai3** family of controllers offer the same network connectivity, built-in **ZPA** control, and **PLC access** as our ConveyLinx product line. What **ConveyLinx-Ai2** and **Ai3** models bring to the table is **Ai technology** for access to the intelligence inside **Senergy-Ai** motor engines and dual power input to separate motor power from logic power for even more system control flexibility.

ConveyLinx-Ai2 and **Ai3** models can be installed with an **IP54** ingress protection rating to expand your ability to solve applications in a wide range of environments.

ConveyLinx-Ai2 utilizes cage-clamp style power connection terminals.

ConveyLinx-Ai3-24-FC utilizes standard **ASI** style cabling for both motor and logic power and employs proven insulation displacement connections

ConveyLinx-Ai3-24-RC utilizes individual conductors for both motor and logic power and employs proven insulation displacement connections.

BENEFITS

Increase of system availability
Small footprint for easy installation in side frame
4 Ethernet protocols
Control of all motion on conveyor
Fast and easy wiring
Tool-free connection
Reverse polarity protected connection
Easy interchangeability

FEATURES

Ai Technology
Power supply using piercing technology with Ai3
Choice of ASI cable or round cable with Ai3
Separate power supply for motors and logic
IP54





ConveyLinx-Ai2

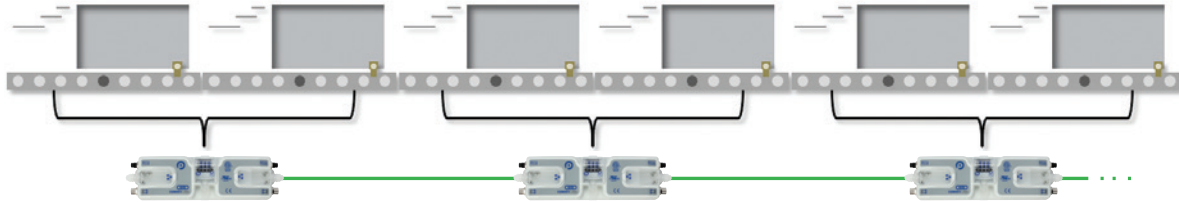
Ai TECHNOLOGY



ConveyLinx-Ai3-24-FC

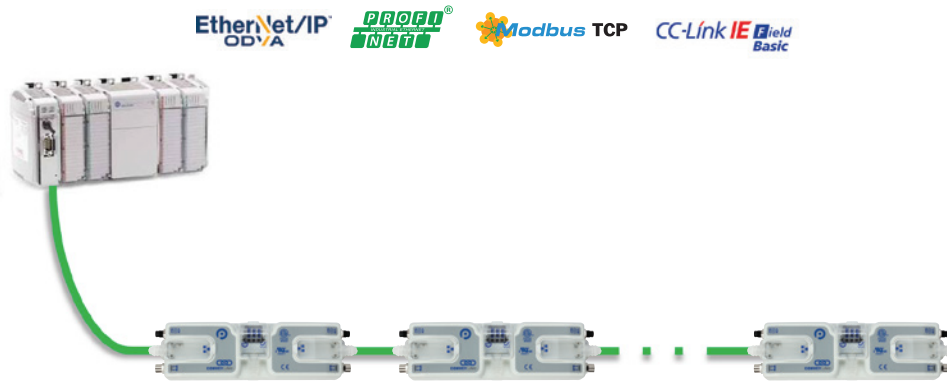
ConveyLinx-Ai2, Ai3-24-FC & RC

Ethernet Networked Conveyor Control



	ConveyLinx-Ai2	ConveyLinx-Ai2-F	ConveyLinx-Ai3-24-FC	ConveyLinx-Ai3-24-RC
<i>Logic Input Voltage</i>	18 to 28 VDC			
<i>Motor Input Voltage</i>	21 to 28 VDC			
<i>Rated Motor Output Current</i>	2.5A x 2 (ECO) 3.5A x 2 (Boost & Boost-8)			
<i>Available Starting Current</i>	3.0A x 2 (ECO) 5.0A x 2 (Boost) 8.0A x 2 (Boost-8)			
<i>Power Connection</i>	Integrated 3 Pole Cage Clamp		ASI Cable Insulation Displacement	2 / 4 Wire Insulation Displacement
<i>Motor Connection</i>	4 Pin M8 x 2			
<i>Sensor & I/O Connection</i>	4 Pin M8 x 2			
<i>Network Connection</i>	RJ-45 x 2			
<i>Ambient Temperature</i>	0° ~ 40°C (32° ~ 104°F)	-30° ~ 40°C (-22° ~ 104°F)	0° ~ 40°C (32° ~ 104°F)	
<i>Ambient Humidity</i>	10 ~ 90% RH (No Condensation)			
<i>Vibration</i>	1G or less			
<i>Certifications</i>	CE ETL Listed to UL 61010-2 & UL 61010-2-201 UL Recognized to UL 61800-5-1			
<i>Available Networks</i>	Ethernet I/P Profinet IO Modbus TCP CC-Link IEF Basic			
<i>Configuration Software</i>	EasyRoll or EasyRoll +			

Automatically Recognizes Multiple PLC Protocols



PLUG AND PLAY CONNECTIVITY

Scan for More
Technical Data





ConveyLinx-Ai2-48

UNLEASH THE CAPABILITIES OF SENERGY-Ai-48



ConveyLinx-Ai3-48-FC



ConveyLinx Ai 48V

ConveyLinx-Ai2-48, Ai3-48-FC

Same Smarts More Power. The **ConveyLinx-Ai2-48** and **Ai3-48-FC** controllers offer the same network connectivity, built-in **ZPA** control, and **PLC access** as our ConveyLinx-Ai2 product line, and dishes out the extra power needed by our Senergy-Ai-48 motor rollers and PGDs.

	ConveyLinx-Ai2-48	ConveyLinx-Ai3-48-FC
Logic Input Voltage	18 to 48 VDC	
Motor Input Voltage	42 to 48 VDC	
Rated Motor Output Current	1.6A (50W)	
Available Starting Current	1.7 Setting: 1.9A (63W) 2.0 Setting: 2.2A (69W) 2.5 Setting: 2.7A (84W) 3.5 Setting: 3.7A (108W) 4.0 Setting: 4.0A (118W)	
Power Connection	Integrated 3 Pole Cage Clamp	ASI Cable Insulation Displacement
Motor Connection	4 Pin M8 x 2	
Sensor & I/O Connection	4 Pin M8 x 2	
Network Connection	RJ-45 x 2	
Ambient Temperature	0° ~ 40°C (32° ~ 104°F)	
Ambient Humidity	10 ~ 90% RH (No Condensation)	
Vibration	1G or less	
Certifications	CE ETL Listed to UL 61010-2 & UL 61010-2-201 UL Recognized to UL 61800-5-1	
Available Networks	Ethernet I/P Profinet IO Modbus TCP CC-Link IEF Basic	
Configuration Software	EasyRoll+	

BENEFITS

- Fast and easy wiring
- Tool-free connection
- Advanced power management
- Easy interchangeability

FEATURES

- Separate power supply for motors and logic
- Power supply using piercing technology
- Choice of ASI cable with Ai3
- Full Ai technology
- IP54



Scan for More
Technical Data



RAPTOR® RSC-Ai

Fantastic Performance. The **Raptor RSC-Ai** controller is specifically designed for one purpose: to harness and unleash the capability of the Raptor motor drive.

Even though the **RSC-Ai** is a fully capable networked controller that can integrate with our **ConveyLinx** and *ConveyLinx-Ai* family models; out of the box it is set up to be a **stand alone controller** that you can simply power up and wire discrete signals to access built in speed/ramp profiles.

With a **built-in web page** interface, you can modify these discretely controlled profiles **without** any special **software** or programming interface. The benefit with this is that you can use a Raptor solution in a motor roller system to **replace or upgrade** an **existing AC drive** unit that had to be AC because the older DC motor roller could not do the job.

Because the **RSC-Ai** can be fully integrated into any of our **ConveyLinx** based systems, you can use it from the start for a new system and enjoy all of the connectivity and diagnostics capabilities already available with ConveyLinx. The **RSC-Ai** utilizes the same **PLC interfaces** and structures as ConveyLinx so you can expect superior integration and commissioning results.

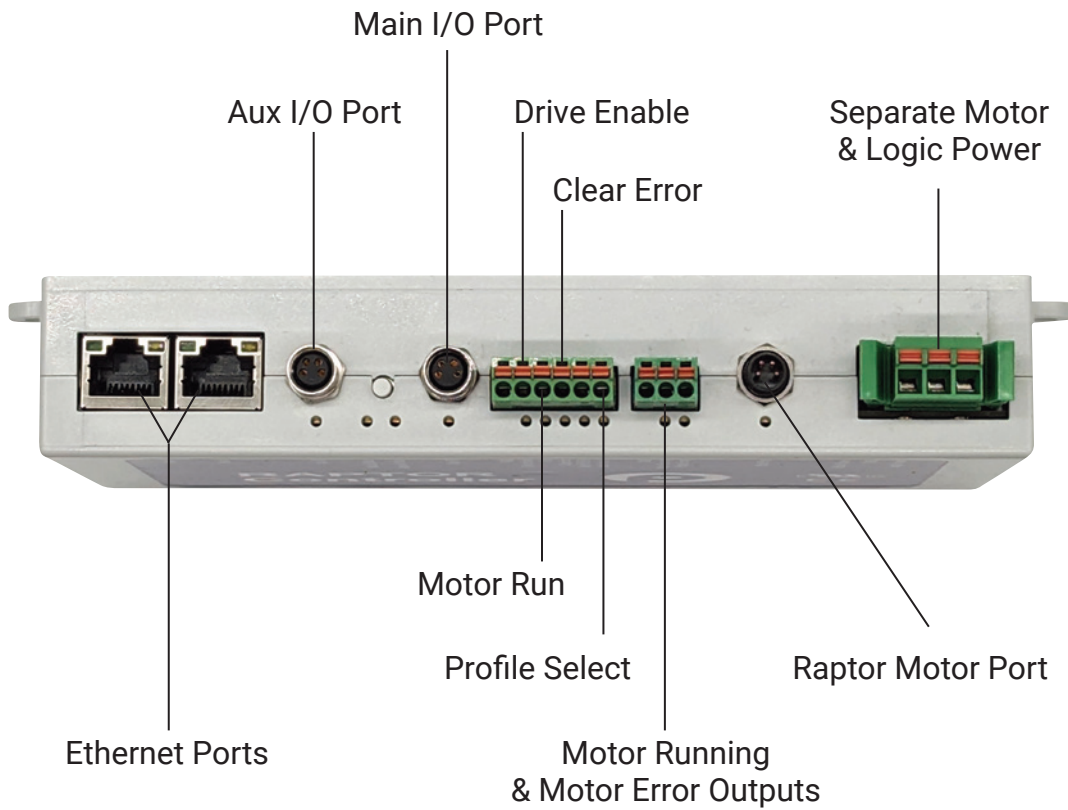
Another convenience for you is that the **RSC-Ai** can be powered by either **24V or 48V** so you can get the **80W** rated performance no matter your power supply voltage.

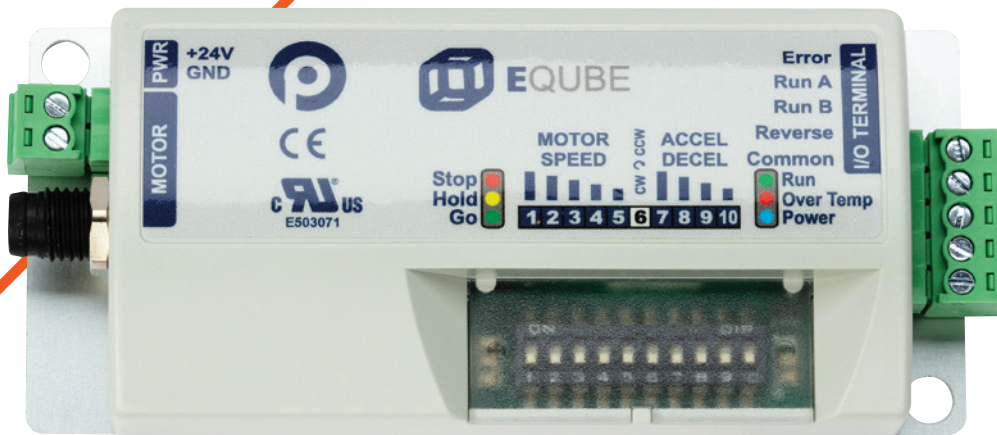
	Raptor RSC-Ai
<i>Logic Input Voltage</i>	18 to 48 VDC
<i>Motor Input Voltage</i>	18 to 48 VDC
<i>Rated Motor Output Current</i>	4A @ 24V 2.5A @ 48V
<i>Peak Motor Output Performance</i>	7A @ 48V for 5 sec 5.5A @ 24V for 5 sec
<i>Power Connection</i>	Removable 3 Pole Cage Clamp
<i>Motor Connection</i>	4 Pin M8
<i>Sensor Connection</i>	4 Pin M8 x 2
<i>Discrete I/O</i>	5 IN/2 OUT Removable Cage Clamp Plug
<i>Network Connection</i>	RJ-45 x 2
<i>Ambient Temperature</i>	-10° ~ 40°C (14° ~ 104°F)
<i>Ambient Humidity</i>	10 ~ 90% RH (No Condensation)
<i>Vibration</i>	1G or less
<i>Certifications</i>	CE UL Recognized to UL 61800-5-1
<i>Available Networks</i>	Ethernet I/P Profinet IO Modbus TCP
<i>Configuration Software</i>	EasyRoll+



Scan for More
Technical Data







EQUBE-Ai



EQUBE

Simple Drive

EQUBE and EQUBE-Ai

Simple Drive Control. The Pulseroller **EQUBE and EQUBE-Ai families** provide a simple and economic drive control to Senergy / Senergy-Ai motors where high performance or sophisticated network control is not required.

The EQUBE and EQUBE-Ai provide control for a single Senergy motor and utilizes ECO mode performance. These controllers are designed to be the most economical control solution for a Senergy motor roller application.

	EQUBE	EQUBE-Ai
<i>Input Voltage</i>	24.0VDC +15% / - 25%	
<i>Rated Motor Output Current</i>	2.8A	
<i>Available Starting Current</i>	3.0A	
<i>Power Connection</i>	Unpluggable 2 Pole Screw Terminal	
<i>Motor Connection</i>	9 Pin JST	4 Pin M8
<i>Control Connection</i>	Unpluggable 5 Pole Screw Terminal	
<i>Configuration Method</i>	DIP Switches	
<i>Speed Selections</i>	32	
<i>Accel/Decel Selections</i>	16	
<i>Indicators</i>	5 Colored LEDs	
<i>Ambient Temperature</i>	-10° ~ 40°C (15° ~ 104°F)	
<i>Ambient Humidity</i>	10 ~ 90% RH (No Condensation)	
<i>Vibration</i>	1G or less	
<i>Certifications</i>	CE, RoHS, UL Recognized to UL 61800-5-1	

FEATURES

- Options for PNP or NPN control inputs
- DIP Switch Setting for 32 available speeds
- DIP Switch Setting for 16 available Accel /Decel rates
- 2 Digital Run signals to provide 3 speed options plus Input for Reverse
- LED Indicators for Power, Run, Reverse, and Error
- PI regulated Speed Control
- ECO Performance Mode



Complete technical manual for EQUBE



Performance Drive

EZ-QUBE, EZ-QUBE-HTBF, EZ-QUBE-W & EZ-QUBE-W-Ai

Performance Drive Control. The Pulseroller **EZ-QUBE** model controller adds Senergy **BOOST** mode performance as well as the addition of **0-10V Analog** speed control input.

Even More Performance Drive Control. The Pulseroller **EZ-QUBE-HTBF** model has all of the features of the EZ-QUBE plus it provides Senergy **BOOST-8** performance, control for Senergy motor rollers and PGDs with mechanical holding brakes, and it **freezer rated** down to -25°C (-13°F). The EZ-QUBE-HTBF also has dual mounting capability to be a direct replacement to Pulseroller's legacy EZ-24 family controllers.

Complete technical manual for EZ-QUBE

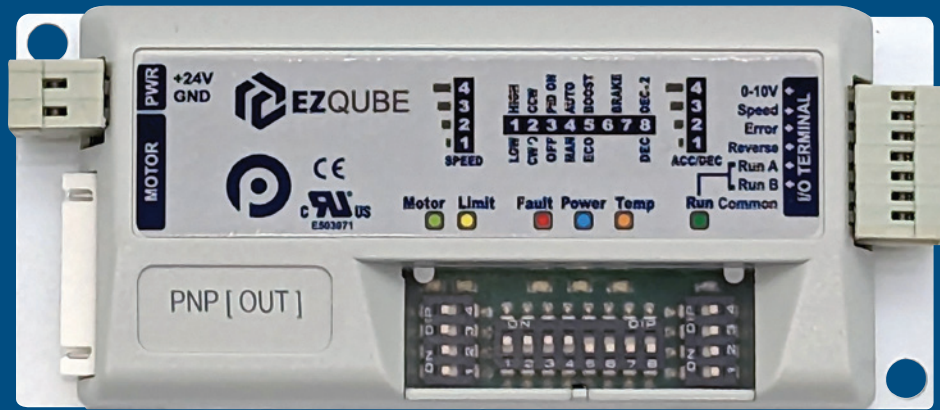


Performance Control with Wireless Connectivity.

Pulseroller **EZ-QUBE-W** and **EZ-QUBE-W-Ai** models have eliminated the configuration DIP switches and replaced them with a **Bluetooth** interface to allow you to configure all module settings from the convenience of your **phone or tablet device**.

	EZ-QUBE	EZ-QUBE-HTBF	EZ-QUBE-W	EZ-QUBE-W-Ai
<i>Input Voltage</i>	24.0VDC +15% / - 25%			
<i>Rated Motor Output Current</i>	2.5A (ECO) 3.5A (Boost)	2.5A (ECO) 3.5A (Boost & Boost-8)		
<i>Available Starting Current</i>	3.0A (ECO) 5.0A (Boost)	3.0A (ECO) 5.0A (Boost) 8.0A (Boost-8)	3.0A (ECO) 5.0A (Boost) 7.0A (Boost-7)	
<i>Power Connection</i>	Unpluggable 2 Pole Cage Clamp Terminal			
<i>Motor Connection</i>	9 Pin JST			4 Pin M8
<i>Control Connection</i>	Unpluggable 7 Pole Cage Clamp Terminal			
<i>Configuration Method</i>	DIP Switches		Mobile App via Bluetooth	
<i>Speed Selections</i>	32	31 plus 0-10V Analog	User selectable plus 0-10V Analog	
<i>Accel/Decel Selections</i>	16		User Selectable via App	
<i>Indicators</i>	6 Colored LEDs		4 Colored LEDs	
<i>Ambient Temperature</i>	-10° ~ 40°C (15° ~ 104°F)	-25° ~ 40°C (-13° ~ 104°F)	-10° ~ 40°C (15° ~ 104°F)	
<i>Ambient Humidity</i>	10 ~ 90% RH (No Condensation)			
<i>Vibration</i>	1G or less			
<i>Certifications</i>	CE, RoHS, UL Recognized to UL 61800-5-1			

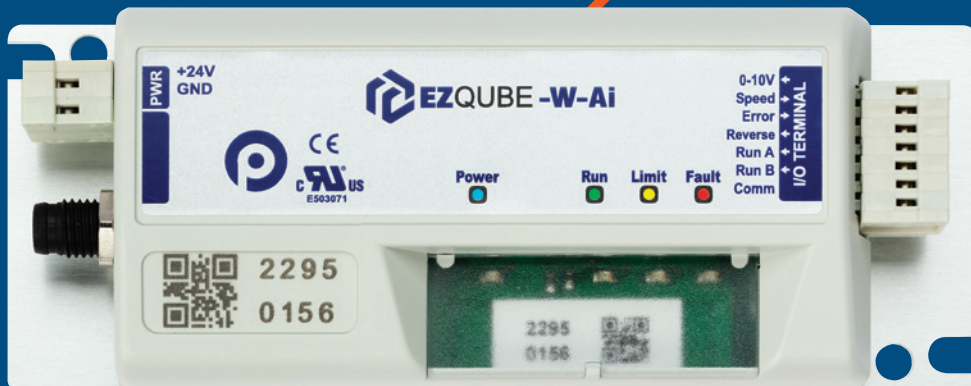




EZ-QUBE



EZ-QUBE-HTBF



EZ-QUBE-W-Ai

MOTIONLINX

Integrator solutions. Pulseroller offers several products designed more for the integrator in mind and not just the conveyor manufacturer or distributor. These products are meant to be used in conjunction primarily with our **ConveyLinx/ConveyLinx-Ai** family network based control systems or for specific networked applications.

	MotionLinx-Ai	MotionLinx-IO	ConveyLinx-IO
Logic Input Voltage	18 to 28 VDC		
Motor Input Voltage	21 to 28 VDC		
Rated Motor Output Current	2.5A x 2 (ECO) 3.5A x 2 (Boost & Boost-8)	N/A	
Available Starting Current	3.0A x 2 (ECO) 5.0A x 2 (Boost) 8.0A x 2 (Boost-8)	N/A	
Power Connection	Integrated 3 Pole Cage Clamp		
Motor Connection	4 Pin M8 x 2	N/A	
Sensor & I/O Connection	4 Pin M8 x 2	4 Pin M8 x 4	
Network Connection	RJ-45 x 2		
Ambient Temperature	0° ~ 40°C (32° ~ 104°F)		
Ambient Humidity	10 ~ 90% RH (No Condensation)		
Vibration	1G or less		
Certifications	CE ETL Listed to UL 61010-2 & UL 61010-2-201 UL Recognized to UL 61800-5-1		
Available Networks	EtherCAT		Ethernet I/P Profinet IO Modbus TCP CC-Link IEF Basic
Configuration Software	N/A		EasyRoll or EasyRoll +

- MotionLinx-Ai** is a 2 zone motor controller with the exact same footprint, power and device connections, and motor performance capability as the **ConveyLinx-Ai2** model with the exception that it is equipped to operate only on an **EtherCAT** network with a master controller.
- MotionLinx-IO** is a configurable 8 digital input or 8 digital output (or any combination) I/O block that operates on only an **EtherCAT** network with a master controller. The **MotionLinx-IO** has the same footprint, power, M8 IO connections as the **ConveyLinx-Ai2** model.
- ConveyLinx-IO** is a configurable 8 digital input or 8 digital output (or any combination) I/O block that operates on the **same network protocols** as **ConveyLinx-Ai2**. The **ConveyLinx-IO** has the same footprint, power, and M8 IO connections as the **ConveyLinx-Ai2** model.



01



MotionLinx-Ai



02



MotionLinx-IO



03



ConveyLinx-IO



Accessories

MDR | Power

- Pre-assembled units ready for field installation
- Uses PULS brand QS/QT/XT Model power supplies
- Available in 120V and 480V Input versions
- Available in 10A, 20A, and 40A Output versions
- Polycarbonate enclosure with convection cooling
- Optional Lockable Disconnect Switch
- Optional UL Assembly



ConveySense

- Sensor & reflector preassembled to mounting brackets
- RJ-11 and M8 connectivity options
- Diffuse between roller style available
- 1M and 2M cable length options available



Motor Extension Cables

- Pre-molded for 9-Pin JST Style Connectors
- Available in multiple lengths
- For use with standard Senergy and legacy Pulseroller
- M8 style available for Senergy-Ai motors



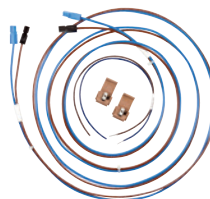
Ethernet Patch Cables

- Standard CAT-5 with RJ-45 Plugs
- Available in multiple lengths
- For use with all ConveyLinX Networked modules



Power Wiring Harnesses

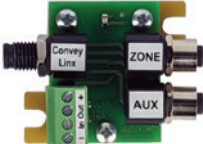
- Pre-assembled 2 wire 24V power bus with 20A capacity
- Designed to fit within the conveyor side frame channel
- Mating plugs at each end to connect conveyor sections together
- Separate Tap Kits available to connect power bus to ConveyLinX module



Contact sales@pulseroller.com for details

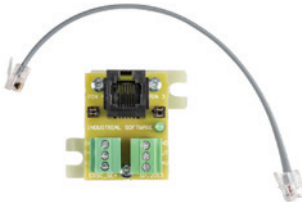
IOX-2 Kit

- an accessory of convenience for integrators who need to easily split the signals of the M8 Sensor Port on any of the **ConveyLinx/MotionLinx** models to allow for quick field installation and wire terminations for non-connectorized devices



SE Kit

- an accessory of convenience for integrators who need to easily split out the signals from either the Sensor or Control RJ-12 ports on any of the **ConveyLinx JST** style models to allow for quick field installation and wire terminations for the devices



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