



**Applications**

**CONVEYING**

The transfer of product at the optimum speed is a primary requirement of all conveyor systems. Fenner QD inverters and Fenner motors are suitable for horizontal, vertical or inclined conveyors, to give accurate speed control and a high starting torque to ensure reliable efficient transportation of products.

**BUILDING MANAGEMENT**

Comfort and efficiency are key requirements for the environment within today's modern buildings. Easy to install and reliable Fenner QD inverters and motors ensure that the large number of motors driving fans and pumps for heating, ventilation and air conditioning are running at their optimum level, saving both energy and protecting the environment.

**MIXING**

For fixed speed or variable speed mixing applications, Fenner QD inverters and motors provide a wide speed range, high starting torque and application specific programmes ensuring mixing process times are optimised to improve productivity and increase efficiency.

**PULP AND PAPER**

From complex multi-function process control to single drive applications Fenner QD inverters and motors can reliably improve preparation and manufacturing processes from the wood yard or recycling yard to the paper machine and the paper converting process. Continuously improving uptime, quality and efficiency.

**PLASTICS/MOULDING**

Long running hours, harsh working environment and precise speed control are just some of the tasks Fenner QD inverters and motors are designed to deliver. From a single conveyor application to fully integrated extrusion/moulding, the Fenner motors and drives package delivers a new level of control, reliability, flexibility and efficiency.

**PUMPING**

Pump systems need to be both reliable and efficient, ensuring that the correct volume of product is transported accurately and dependably. Fenner QD inverters and motors are designed to provide efficient and reliable service and can even be integrated into building management systems.

**BOTTLING**

Machinery which requires fast and accurate positioning in a harsh working environment, Fenner QD inverters are designed to work within panels or as standalone units allowing flexibility for high speed process applications.

**FENNER QUICK DRIVE APPLICATION GUIDE**

Industry/Application	QD:E	QD:VT	QD:CT PLUS
<b>METALWORKING</b>			
Spindles			●
Grinding			●
Drilling			●
Polishing			●
<b>MINING &amp; QUARRYING</b>			
Mixers			●
Crushers			●
Conveyors	●		●
Skip Hoist			●
<b>BUILDING AUTOMATION</b>			
Fans		●	
Centrifugal Pumps		●	
Refrigeration		●	
Compressors			●
<b>WATER</b>			
Centrifugal Pumps		●	
PD Pumps	●		●
Fans		●	
Blowers	●		●
<b>FOOD &amp; BEVERAGE</b>			
Conveyors	●		●
Mixers			●
Packaging	●		●
Compressors			●
<b>MATERIALS HANDLING</b>			
Conveyors	●		●
Packaging	●		●
Palletisers			●
Cranes			●
<b>WOOD WORKING</b>			
Routing			●
Cutting			●
Conveyors	●		●
<b>CHEMICALS</b>			
Mixers			●
Fume Extraction	●	●	
Pumping	●	●	●
Centrifuge			●
<b>PRODUCTION</b>			
Moulding			●
Extruders			●
Mixing			●
Winding			●

Drive Selection Overview

Specification		QD:E	QD:VT	QD:CT PLUS
Output ratings	Overload Capacity	150% for 60 secs 175% for 2 secs	110% for 60 secs 125% for 2 secs	150% for 60 secs 175% for 2 secs
	Frequency	0...500Hz	0...120Hz	0...2000Hz
Input Ratings	Frequency	48 - 62Hz	48 - 62Hz	48 - 62Hz
	Voltage	–	200 - 240 +/- 10% 1 Phase (1.5 - 22kW / 2 - 30HP)	200 - 240 +/- 10% 1 Phase (0.37 - 22kW / 0.5 - 30HP)
		200 - 240 +/- 10% 1 Phase (0.37 - 2.2kW / 0.5 - 3HP)	200 - 240 +/- 10% 3 Phase (1.5 - 45kW / 2 - 60HP)	200 - 240 +/- 10% 3 Phase (1.5 - 90kW / 2 - 120HP)
		200 - 240 +/- 10% 3 Phase (0.37 - 3.7kW / 0.5 - 5HP)	–	–
	380 - 480 +/- 10% 3 Phase (0.75 - 11.0kW / 1 - 15HP)	380 - 480 +/- 10% 3 Phase (1.5 - 160kW / 2 - 210HP)	380 - 480 +/- 10% 3 Phase (1.5 - 160kW / 2 - 210HP)	
Ambient Conditions	Temperature	Operating: IP20 = 0 to 50°C Max, IP55 = 0 to 40°C Max; Storage: -40 to +60°C	Operating: 0 to 50°C Max; Storage: -40 to +60°C	Operating: IP20 = 0 to 50°C Max, IP55 = 0 to 40°C Max; Storage: -40 to +60°C
	Altitude	0 - 2000m, derate 1% per 100m above 1000m	0 - 2000m, derate 5% per 100m above 1000m	0 - 2000m, derate 5% per 100m above 1000m
	Ingress Protection	IP20 / IP55	IP20	IP20 / IP55
Programming	Keypad	Yes	Yes	Yes
	PC	–	Yes	Yes
	PDA	Yes with QStick	Yes	Yes
	Smartphone	Yes with QStick	Yes	Yes
	Control Method	Voltage Vector	V / F	V / F 3 <sup>GV</sup> Sensorless Vector Closed Loop Vector (with optional encoder feedback interface)
Control Specification	PWM Frequency	4...32kHz (effective)	4...32kHz (effective)	4...32kHz (effective)
	V/Hz ratio	Linear	Quadratic	Linear (1 adjustment point)
	Boost	Yes	Automatic after autotune	Automatic after autotune
	Stop Mode	Coast / Ramp / DC Brake	Coast / Ramp / DC Brake	Coast / Ramp / DC Brake
	Internal Brake transistor	Yes (except size 1) External Resistor required	Yes External Resistor required	Yes (except size 1) External Resistor required
	Capacity	100% Drive Rated Power continuously	100% Drive Rated Power continuously	100% Drive Rated Power continuously
	Skip Frequency	One point, adjustable frequency band	One point, adjustable frequency band	One point, adjustable frequency band
	Frequency setpoint control	0...10 VDC	0...10 VDC	0...10 VDC
		+/- 10 VDC	+/- 10 VDC	+/- 10 VDC
		20...4mA	0...24 VDC	0...24 VDC
		4...20mA	4...20mA	4...20mA
		0..20mA	0..20mA	0..20mA
		Digital – Keypad	Digital – Keypad	Digital – Keypad
		–	RS485 (Master Slave)	RS485 (Master Slave)
		ModBus RTU	ModBus RTU	ModBus RTU
	Pre-set speeds	4	8	8
	PI Control	Yes	Yes	Yes
Spin Start	Yes	Yes	Yes	
Acceleration	0..3000 sec	0..3000 sec	0..3000 sec	
Deceleration	(2 ramps) 0..3000 sec	(2 ramps) 0..3000 sec	(2 ramps) 0..3000 sec	
S Curve Accel / Decel	–	–	Firmware Download Available	
PC Setup Software	–	QStore PLUS	QStore PLUS	
Programmable I/O	Input 1	Programmable Digital Input	Programmable Digital Input	Programmable Digital Input
	Input 2	Programmable Digital Input	User Selectable Digital Input / Output	User Selectable Digital Input / Output
	Input 3	User Selectable Analog / Digital Input	User Selectable Unipolar Analog / Digital Input	User Selectable Unipolar Analog / Digital Input
	Input 4	User Selectable Analog / Digital Input	User Selectable Bipolar Analog / Digital Input	User Selectable Bipolar Analog / Digital Input
	Output 1	Programmable Analog / Digital Output	Programmable Analog / Digital Output	Programmable Analog / Digital Output
	Relay 1	Relay Output (30 VDC 5A, 250 VAC, 6A)	Relay Output (30 VDC 5A, 250 VAC, 6A)	Relay Output (30 VDC 5A, 250 VAC, 6A)
Keypad Display	Operating Display	Output Frequency, Current, Rpm and User Scalable values	Output Frequency, Current, Rpm, Power and User Scalable values	Output Frequency, Current, Rpm, Power and User Scalable values
	Remote Mount	Optional QPort E2 remote mounting keypad	Optional QPort PLUS remote mounting keypad	Optional QPort PLUS remote mounting keypad
Protective Functions	Inverter Trip	Over voltage	Over voltage	Over voltage
		Over current	Over current	Over current
		Under voltage	Under voltage	Under voltage
		External trip	External trip	External trip
		Motor overload	Motor overload	Motor overload
		Over temperature	Over temperature	Over temperature
		Short circuited	Short circuited	Short circuited
		Earth Fault	Earth Fault	Earth Fault
Under Voltage	Under Voltage	Under Voltage		
Memory	Last 4 Trips stored	Last 4 Trips stored	Last 4 Trips stored	
Bus Communication	Modbus	Yes	Yes	Yes
	Profibus DP	via Gateway	via Gateway	via Gateway
	DeviceNet	via Gateway	via Gateway	via Gateway
	RS485 (QBus)	Standard	Standard	Standard
Compliance with Standards	EN 61800-3:2004	Adjustable speed electrical power drive systems. EMC requirements	Adjustable speed electrical power drive systems. EMC requirements	Adjustable speed electrical power drive systems. EMC requirements
Additional Features	–	Built in Master – Slave Operation Mode PID 'Sleep & Wake Up' Modes Energy Optimising Function	Built in Master – Slave Operation Mode PID 'Sleep' Mode Energy Optimising Function	

Ordering Instructions



All Fenner QD Inverters are identified with a unique code number. This consists of an eight digit code depending on the enclosure, power, supply voltage and range.

Construction of the coding system is explained below.

**FIRST THREE DIGITS:**

Series and enclosure

Code	Range	Enclosure
572	QD:E / CT PLUS / VT	IP20
575	QD:E / CT PLUS / VT	IP55

**FOURTH DIGIT:**

Inverter type

Code	Series
B	QD-E (Basic Inverter)
V	QD-CT PLUS (VECTOR control)
H	QD-VT (HVAC drive)

**FIFTH DIGIT:**

Supply voltage code

Code	Voltage
2	220-240V 1~ supply
3	220-240V 3~ supply
4	380-440V 3~ supply

**SIXTH, SEVENTH & EIGHTH DIGITS:**

Rated power code

Code	Output Power (kW)
0P4	0.37
0P7	0.75
1P5	1.50
2P2	2.20
3P0	3.00
4P0	4.00
5P5	5.50
7P5	7.50
011	11.0
015	15.0
018	18.5
022	22.0
030	30.0
037	37.0
045	45.0
055	55.0
075	75.0
090	90.0
110	110.0
132	132.0
160	160.0

**NINTH DIGIT:**

Special features

Code	Output Power
N	Non-Switched IP55 Non-standard option
E	Enlarged Frame Size Non-standard option

**Fenner QD:E**

**200-240V 1 PHASE SUPPLY**

Motor Power (kW)	Output Current (Amps)	Fenner Part Number		Frame Size
		IP20	IP55	
0.37	2.3	572B20P4	575B20P4	1
0.75	4.3	572B20P7	575B20P7	1
1.5	7.0	572B21P5	575B21P5	1
1.5	7.0	572B21P5E	575B21P5E	2
2.2	10.5	572B22P2	575B22P2	2

**200-240V 3 PHASE SUPPLY**

Motor Power (kW)	Output Current (Amps)	Fenner Part Number		Frame Size
		IP20	IP55	
0.37	2.3	572B30P4	575B30P4	1*
0.75	4.3	572B30P7	575B30P7	1*
1.5	7.0	572B31P5	575B31P5	1*
1.5	7.0	572B31P5E	575B31P5E	2
2.2	10.5	572B32P2	575B32P2	2
4.0	18.0	572B34P0	575B32P2	3

\*Size 1 Drives on 200-240V 3 phase supply do not have an integral RFI filter

**380-480V 3 PHASE SUPPLY**

Motor Power (kW)	Output Current (Amps)	Fenner Part Number		Frame Size
		IP20	IP55	
0.75	2.2	572B40P7	575B40P7	1
1.5	4.1	572B41P5	575B41P5	1
1.5	4.1	572B41P5E	575B41P5E	2
2.2	5.8	572B42P2	575B42P2	2
4.0	9.5	572B44P0	575B44P0	2
5.5	14.0	572B45P5	575B45P5	3
7.5	18.0	572B47P5	575B47P5	3
11.0	25.0	572B4011	-	3

**Fenner QD:CT PLUS**

**200-240V 1 PHASE SUPPLY**

Motor Power (kW)	Output Current (Amps)	Fenner Part Number		Frame Size
		IP20	IP55	
0.37	2.3	572V20P4	575V20P4	1
0.75	4.3	572V20P7	575V20P7	1
1.5	7.0	572V21P5	575V21P5	1
1.5	7.0	572V21P5E	575V21P5E	2
2.2	10.5	572V22P2	575V22P2	2

**200-240V 3 PHASE SUPPLY**

Motor Power (kW)	Output Current (Amps)	Fenner Part Number		Frame Size
		IP20	IP55	
1.5	7.0	572V31P5	575V31P5	2
2.2	10.5	572V32P2	575V32P2	2
3.0	14.0	572V33P0	575V33P0	3
4.0	18.0	572V34P0	575V34P0	3
5.5	25.0	572V35P5	575V35P5	3
7.5	39.0	572V37P5	575V37P5	4
11.0	46.0	572V3011	-	4
15.0	61.0	572V3015	-	4
18.5	72.0	572V3018	-	4
22.0	90.0	572V3022	-	5
30.0	110.0	572V3030	-	5
37.0	150.0	572V3037	-	5
45.0	180.0	572V3045	-	5
55.0	202.0	572V3055	-	6
75.0	240.0	572V3075	-	6
90.0	300.0	572V3090	-	6

**380-480V 3 PHASE SUPPLY**

Motor Power (kW)	Output Current (Amps)	Fenner Part Number		Frame Size
		IP20	IP55	
0.75	2.2	572V40P7	575V40P7	2
1.5	4.1	572V41P5	575V41P5	2
2.2	5.8	572V42P2	575V42P2	2
4.0	9.5	572V44P0	575V44P0	2
5.5	14.0	572V45P5	575V45P5	3
7.5	18.0	572V47P5	575V47P5	3
11.0	25.0	572V4011	-	3
15.0	30.0	572V4015	-	3
18.5	39.0	572V4018	-	4
22.0	46.0	572V4022	-	4
30.0	61.0	572V4030	-	4
37.0	72.0	572V4037	-	4
45.0	90.0	572V4045	-	5
55.0	110.0	572V4055	-	5
75.0	150.0	572V4075	-	5
90.0	180.0	572V4090	-	5
110.0	202.0	572V4110	-	6
132.0	240.0	572V4132	-	6
160.0	300.0	572V4160	-	6

**Fenner QD:VT**

**200-240V 1 PHASE SUPPLY**

Motor Power (kW)	Output Current (Amps)	Fenner Part Number	Frame Size
		IP20 Only	
1.5	7.0	572H20P4	2
2.2	10.5	572H20P7	2

**200-240V 3 PHASE SUPPLY**

Motor Power (kW)	Output Current (Amps)	Fenner Part Number	Frame Size
		IP20 Only	
1.5	7.0	572H31P5	2
2.2	10.5	572H32P2	2
3.0	14.0	572H33P0	3
4.0	18.0	572H34P0	3
5.5	25.0	572H35P5	3
7.5	39.0	572H37P5	4
11.0	46.0	572H3011	4
15.0	61.0	572H3015	4
18.5	72.0	572H3018	4
22.0	90.0	572H3022	4
30.0	110.0	572H3030	5
37.0	150.0	572H3037	5
45.0	180.0	572H3045	5

**380-480V 3 PHASE SUPPLY**

Motor Power (kW)	Output Current (Amps)	Fenner Part Number	Frame Size
		IP20 Only	
1.5	4.1	572H41P5	2
2.2	5.8	572H42P2	2
4.0	9.5	572H44P0	2
5.5	14.0	572H45P5	3
7.5	18.0	572H47P5	3
11.0	25.0	572H4011	3
15.0	30.0	572H4015	3
18.5	39.0	572H4018	4
22.0	46.0	572H4022	4
30.0	61.0	572H4030	4
37.0	72.0	572H4037	4
45.0	90.0	572H4045	4
55.0	110.0	572H4055	5
75.0	150.0	572H4075	5
90.0	180.0	572H4090	5
110.0	202.0	572H4110	6
132.0	240.0	572H4132	6
160.0	300.0	572H4160	6