Allen-Bradley
by ROCKWELL AUTOMATION

Catalog #: 284E-FVD1P4Z-10-CR-3-SB

# EtherNet_IP ArmorStart VFD

Lifecycle status: Active Mature

## Technical Specifications

### Mechanical

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| Degree of protection (IP) | IP67 |
| Shock | Operational: 15 G |
| Wire strip length | Power and ground terminals: 9 mm (0.35 inch) |
| Vibration | Operational, 1 G, 0.15 mm (0.006 inch) displacement |
| Tightening torque | Power and ground terminals: 4.5 lb.inch per UL/NEMA (secondary terminal) |
| Disconnect lock out | Recommend 8 mm (5/16 inch) lock shackle or hasp. The hasp should not exceed 8 mm (5/16 inch) when closed. |
| Approximate shipping weight | 19.1 kg |

### Environmental

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| Altitude | 1000 m |
| Operating temperature | -20 °C |
| Storage and transportation temperature | -25 °C |
| Humidity | 5...95% on-condensing |
| Protection against shock | Power circuit: IP2X per IEC |
| Surge transient | 1 kV L-L, 2 kV L-N (earth) |
| Radiated emissions | Class A, group 1, equivalent to C2 emissions |
| Conducted radio frequency emissions | Class A |
| Radio frequency electromagnetic field | 10 V/m |

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| Degree of protection (NEMA) | 4 |
| Pollution degree | 3 |
| Fast transient | 2 kV |
| Electrostatic discharge | 4 kV contact and 8 kV air |

## Electrical

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| Communication | EtherNet/IP |
| Short circuit protection | 10 A rated device |
| DeviceNet input current surge | 15 A for 250 µs |
| DeviceNet input current | 364 mA @ 11V DC - 4.0 W |
| Total w/max. sensor inputs (4) | 367 mA @ 24V DC - 8.0 W |
| Overvoltage category | Control circuit: III per IEC |
| Product type | AC Drive |
| Rated impulse voltage | Power circuit: rated 6 kV |
| DeviceNet supply voltage rating | Range 11...25V DC, 24V DC Nominal |
| Baud rates | 125, 250, 500 kbps |
| Rated input operation voltage | 24V DC |
| Input OFF-state current | <1.5 mA |
| Rated output operating current, max | Power circuit: 1.4 A @ 3-phase, 0.5 Hp rating |
| Input OFF-state voltage | 0...5V DC |
| Input ON-state voltage | 10...26V DC |
| Torque performance mode | Sensorless vector control and volts per Hertz |
| Distance, max | 500 m (1630 ft) @ 125 kbps |
| Operating frequency | Power circuit: 50/60 Hz |
| Input ON-state current | 7.2 mA @ 24V DC |
| Option 1 | HAND-OFF-AUTO selector keypad with jog function |
| Number of contacts | Output rating- sourced from control circuit: 2 |
| Short-circuit protection device list | Size per NEC group motor per UL/NEMA |
| Input compatibility | IEC 1133 Type 1+ |
| Application in industrial area permitted (SCPD list) | Size per NFPA 70 (NEC) or NFPA 79 for group motor applications |
| Rated output operation voltage | Sourced from control circuit: 240V AC / 30V DC |
| Drive input current ratings | 2.15 A @ 380V, 0.4 kW, 3-phase, 50 Hz |

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| Option 2 | M25 source brake contactor connector |
| Insulation voltage | Power circuit: rated 600V AC |
| Dielectric withstand | Power circuit: 2500V AC per IEC |
| Type of contacts | Output rating- sourced from control circuit: normally open (NO) |
| Outputs current (2) 1 A each, max | External devices powered by control voltage: 2 A @ with brake and output contactor |
| Current available | Sensor source: 50 mA maximum per input, 200 mA total |
| Type of control circuit | Output rating- sourced from control circuit: electromechanical relay |
| Conventional thermal current (Ith) | Output rating- sourced from control circuit: total of both outputs ≤2 A |
| RMS symmetrical amperes | 65 kA @ 480V/277V per UL/NEMA |
| Rated operation voltage | Power circuit: 380Y/220...480Y/277V AC |
| 3-phase power/motor cable connection | Conduit entrance with motor cable |
| Input filter - software selectable | ON to OFF: settable from 0...64 ms in 1 ms increments |
| Kind of current | Output rating- sourced from control circuit: AC/DC |
| Nominal control power (pick up) | External devices powered by control voltage: 64 W @ with maximum outputs, with brake and output contactor |
| Nominal control power (hold in) | External devices powered by control voltage: 64 W @ with maximum outputs, with brake and output contactor |
| Trip class | Class 10 |
| Number of digital inputs | 4 |
| Number of digital outputs | 2 |
| Number of analogue inputs | 4 |
| Max. output frequency | 400 Hz |
| Supporting protocol for EtherNet/IP | Yes |
| Mains frequency | 50/60 Hz |
| Number of inputs | 4 |
| Enclosure type | IP67/NEMA 4 |
| Disconnect | Motor disconnect |
| Connection type | Quick disconnects |
| Utilization category | Power circuit: AC-3 per IEC |
| External devices powered by DeviceNet | 50 mA - total 200 mA |
| Voltage status | Sensor source: 11...25V DC from DeviceNet |

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| Overload protection | $I^2t$ overload protection - 150% for 60 seconds, 200% for 30 seconds |

## Construction

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| Height, approx | 287.5 mm @ 460V AC, conduit entrance, 2 Hp and below |
| Depth, approx | 266.9 mm @ 460V AC, conduit entrance, 2 Hp and below |
| Terminal wire size | Control and safety monitor inputs: 1.0...4.0 mm^2 per IEC |
| Wire size | Power and ground terminals: 1.5...4.0 mm^2 per IEC (primary/secondary terminal) |
| Width, approx | 420.38 mm @ 460V AC, conduit entrance, 2 Hp and below |
| Number of poles | 3 |