Custom V/f Pattern for Premium Efficiency Motors

Topic Description

When using a **premium efficiency motor** (i.e. **Baldor Super-E** ®) with a **variable torque load**, applying the default **V/f** (volts per frequency) **pattern** can sometimes create a **full magnetizing current** (amperage) at low speeds and therefore result in an **overload** trip on the drive. Due to the motor's physical properties and low impedance windings, a **custom V/f pattern** is often needed.

Resolution

Set the following **custom V/f pattern** when using a **premium efficiency motor** with a **variable torque load**:

Parameter	Parameter Description	200V Class Drives	400V Class Drives	600V Class Drives
E1-03	V/f Pattern Selection	F	F	F
E1-04	Maximum Output Frequency	60 hz	60 hz	60 hz
E1-05	Maximum Output Voltage	Nameplate Voltage		
E1-06	Base Frequency	60 hz	60 hz	60 hz
E1-07	Middle Output Frequency	30 hz	30 hz	30 hz
E1-08	Middle Output Frequency Voltage	40.2 v	80.4 v	100 v
E1-09*	Minimum Output Frequency	1.5 hz	1.5 hz	1.5 hz
E1-10*	Minimum Output Frequency Voltage	9.2 v	18.4 v	23 v

** Parameters **E1-09** and **E1-10** are not lower limits. These settings are the initial **frequency** and **voltage** when the drive starts outputting. A **lower limit** is set in parameter **d2-02** if necessary.*

Note:

- *On J1000 drives, parameter **E1-03** is visible but cannot be changed.*
- *These values provide a **starting point** and may need to be adjusted depending on the application.*

Related Documents

Custom V/f Pattern for Baldor RPM XE eXtreme Efficient Motors
Not able to change or see E1-03
Setting the V/f (Volts per Frequency) Curve Back to Factory Default
Troubleshooting an oC (Overcurrent) Fault
Troubleshooting an oL2 (Drive Overload) Fault

Product Types

GA800, **GA800 Configured** , **GA500** , **HV600** , **HV600 Bypass** , **HV600 Configured** , **A1000**, **A1000 Configured** , **E7**, **A1000 HHP**, **E7B Bypass**, **E1000**, **E7BR**, **H1000**, **E7BR Bypass Nema 3R**, **iQpump VTC**, **iQpump Micro-4X**, **iQpump Micro** , **iQpump1000** , **E7C Configured**, **iQpump1000 Bypass** , **E7CR**, **E7E Engineered**, **E7L Bypass**, **E7N Bypass**, **iQpump Micro Configured**, **iQpump1000 Configured** , **iQrise**, **F7C Configured**, **J1000**, **FS7**, **L1000**, **G7**, **P1000**, **G7C Configured**, **P1000 Bypass** , **iQpump 7 Series**, **P1000 Configured** , **U1000 Industrial**, **U1000 Industrial Configured**, **U1000 iQpump**, **P7**, **U1000 iQpump Configured**, **P7BR**, **U1000L**, **P7 Bypass**, **U1000 Oil and Gas**, **P7C Configured**, **V1000**, **P7CR**, **V1000-4X**, **P7 Slim Configured**, **Z1000**, **PPBB**, **Z1000 Bypass** , **PPBR**, **Z1000 Configured** , **PPCB**, **Z1000 Redundant Bypass**, **Z1000U**, **Z1000U Bypass**, **Z1000U Configured**

All Applications

Advanced Random Rotary Knife with Cam Blend, **Air Compressor**, **Blister pack Thermoformer**, **Cartoner**, **Centrifuge**, **Conveyor**, **Crane/ Hoist**, **Dynamometer**, **Elevators and Escalators**, **Extrusion**, **Fans/Blowers**, **Feed To Length**, **General Machinery**, **HVAC**, **Irrigation**, **Labeler**, **Laundry**, **Linear Flying Shear**, **Machine Tool**, **Mixer**, **Other**, **Packaging**, **Palletizer**, **Precision Grinding**, **Pump**, **Punch Press**, **Rotary Knife**, **Rotary Placer**, **Rotary Table Indexer**, **Screw Feeder**, **Semiconductor**, **Solar Cell Tabbing and Bussing**, **Solar - Textured Etching**, **Synch-Belt**, **Textile**, **Winding**

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