ABB Ethernet setup – FENA-01: Updated for Adding Gateway address

Drive parameters

**9802** (Comm Prot Sel) = EXT FBA

**5101** (FBA Type) = ETHERNET (This should be set automatically once you change 9802)

**5102** (FBA Par 2) = 100 (E/IP AC/DC protocol)

**5104** (FBA Par 4) = 0 (Static IP)

**5105 – 5108** (FBA Par 5-8)= IP Address, for example if IP address is 192.168.67.4:

**5105** (FBA Par 5) = 192

**5106** (FBA Par 6) = 168

**5107** (FBA Par 7) = 67

**5108** (FBA Par 8) = 4

**5109** (FBA Par 9) = 24 (255.255.255.0 subnet mask)

**5110 – 5113** (FBA Par 10-13) = Gateway address (if needed), for example for 192.168.67.101:

**5110** (FBA Par 10) = 192

**5111** (FBA Par 11) = 168

**5112** (FBA Par 12) = 67

**5113** (FBA Par 13) = 101

**5119** (FBA Par 19)= 0(T16 Scale)

**5121** (FBA Par 21) = 0 (Offline)

**5122** (FBA Par 22) = 0 (Ramp to stop)

**5123** (FBA Par 23) = 128 (Sets the scaling for speed reference)

After making the above changes, **set PBA Par Refresh (Parameter 5127) to REFRESH** in order to restart the module with the new parameters.

**5127** (FBA Par Refresh) = REFRESH

After refresh, set the following other drive parameters:

**1001** (Keypad Ref Sel) = COMM (Start/stop from comm module)

**1103** (REF1 Select) = COMM (Speed reference from comm module)

**1201** (Const Speed Sel) = NOT SEL

**1601** (Run Enable) = Run Enable Digital Input (if needed)

**1604** (Fault Reset Sel) = COMM

**2003** (Max Current) = DO NOT CHANGE (calculated in VFD)

**2201** (Acc/Dec 1/2 Sel) = NOT SEL

**3003/3004** (External Fault 1/2) = External Fault Digital Input Inverse (if needed)

**3005** (Mot Therm Prot) = Not Sel (turn off, calculated value that may cause issues)

**3018** (Comm Fault Func) = FAULT

**3019** (Comm Fault Time) = 1.0 seconds

**9905** (Motor Nom Volt) = Nameplate Voltage

**9906** (Motor Nom Curr) = Nameplate Amps

**9907** (Motor Nom Freq) = Nameplate Hertz

**9908** (Motor Nom Speed) = Nameplate RPM

**9909** (Motor Nom Power) = Nameplate Horsepower

**Note 1:** Other parameters might need to be changed/looked at, every machine is unique

**Note 2:** If you have STO or a digital input that starts with +24 VDC off the drive (wire in slot 9 on ACS-355 drives), you need the 101 to be jumpered to slot 10 (internal VFD ground) also, otherwise the STO/digital input might not work consistently or at all

PLC Program Note – FENA-01

Make sure the EDS files are installed on the computer ([\\fvcontrolsdata\fvcontrols\Installs\ABB\EDS](file://\\fvcontrolsdata\fvcontrols\Installs\ABB\EDS))

The VFD should now show up in RSLinx. Right click on it and select device properties. Note the Revision value.

In Logix 5000, right-click on the Ethernet device for the VFD and select Properties. On the General tab under Module Definition, click Change and set the revision number to match the one shown in RSLinx.

Once that is done the FENA-01 module should show three green lights.

Drive setup - RETA-01

Drive parameters

**9802** = EXT FBA

**5101** = ETHERNET (This should be set automatically once you change 9802)

**5103** = 0 (Static IP)

**5104 – 5107** = IP Address, for example if IP address is 192.168.67.4:

5104 = 192

5105 = 168

5106 = 67

5107 = 4

**5108 – 5111** = Subnet mask, same breakdown as IP address (set to 255.255.255.0)

**5112 – 5115** = Gateway address, for example for 192.168.67.101:

5112 = 192

5113 = 168

5114 = 67

5115 = 101

**5116** = 1 (Ethernet/IP AC/DC comm profile)

**5118** = 0 (Ramp to stop)

After making the above changes, **set PBA Par Refresh (Parameter 5127) to REFRESH** in order to restart the module with the new parameters.

**5127** (FBA Par Refresh) = REFRESH

After refresh, set the following other drive parameters:

**1001** (Keypad Ref Sel) = COMM (Start/stop from comm module)

**1103** (REF1 Select) = COMM (Speed reference from comm module)

**1201** (Const Speed Sel) = NOT SEL

**1601** (Run Enable) = Run Enable Digital Input (if needed)

**1604** (Fault Reset Sel) = COMM

**2003** (Max Current) = DO NOT CHANGE (calculated in VFD & can only cause issues with our set ups)

**2201** (Acc/Dec 1/2 Sel) = NOT SEL

**3003/3004** (External Fault 1/2) = External Fault Digital Input Inverse (if needed)

**3005** (Mot Therm Prot) = Not Sel (turn off, calculated by drive)

**3018** (Comm Fault Func) = FAULT

**3019** (Comm Fault Time) = 1.0 seconds

**9905** (Motor Nom Volt) = Nameplate Voltage

**9906** (Motor Nom Curr) = Nameplate Amps

**9907** (Motor Nom Freq) = Nameplate Hertz

**9908** (Motor Nom Speed) = Nameplate RPM

**9909** (Motor Nom Power) = Nameplate Horsepower

**Note 1:** Other parameters might need to be changed/looked at, every machine is unique

**Note 2:** If you have STO or a digital input that starts with the +24 VDC off the drive (wire in slot 9 on ACS-355 drives), you need “101” to be jumpered to slot 3, 6, 8, or 10 (internal VFD ground) also, otherwise the STO/digital input might not work consistently or at all

# Revision History

A: Added parameters 1604, 3018, 3019 to the list of parameters to change

B: Added parameter 1601 to the list of parameters to change

C: FENA-01: cleaned up and simplified list; added parameters names; added parameters 1201, 2201, 3003,9905-9909

D: FENA-01: added parameters 2003, 3004, 3005; added notes; RITA-01; updated some parameter names; added notes

E: Changed setting FINA 5122 & RETA 5118 to ‘0’, Ramp to Stop, only. Reasoning is Coast to Stop, without a flying start enabled, will make the motor not restart if a quick stop then start is done. It can only restart when motor is fully stopped. Secondly the flying start does not act like in AB drives. ABB drives do a frequency scan that can take up to 5 seconds before starting up as well as ramp up the motor quickly, not ideal in our situation. Finally, in Ramp to Stop, you can do a “flying restart” due to the drive knowing the frequency it is controlling the motor at, so works in our situation.