

INSTALLATION DO's & DON'Ts

- ✗ **DO NOT** place any objects in front of the EFOY Fuel Cell's air intake or outlet that would re-strict air circulation
- ✗ **DO NOT** transport the EFOY Fuel Cell in temperatures below 0°C unless it is in operation (anti-freeze mode)
- ✗ **DO NOT** store the service fluid in cold temperatures (high risk of freezing)
- ✗ **DO NOT** add additional panels or batteries to the system without consulting Simark Controls (may void warranty)
- ✓ **DO** refer to detailed installation instructions in the manual
- ✓ **DO** remove the red cap from the exhaust hose outlet
- ✓ **DO** connect the isolated exhaust hose to the EFOY and ensure it is routed down and outside the shortest way possible
- ✓ **DO** ensure the exhaust hose is not kinked or plugged
- ✓ **DO** ensure the space below the exhaust hose is clear of all debris so there is nothing for ice to build up on
- ✓ **DO** maintain a minimum distance of 5cm around the EFOY Fuel Cell to allow for proper air intake / cooling
- ✓ **DO** keep the fuel cartridge connections clean and free of particles and pollution and ensure they are hand tight
- ✓ **DO** warm the Fuel Cell back up to room temperature before attempting to re-start the system IF it was exposed to freezing temperatures for an extended period of time and was not running (risk of damage to the power stack)
- ✓ **DO** ensure that the max voltage settings on the charge controller are within the acceptable threshold (see table)
- ✓ **DO** run a manual-on charge cycle to ensure the system is functioning properly once installation is complete
- ✓ **DO** ensure the enclosure is securely shut and secured prior to leaving the installation site

SYSTEM START-UP

- Ensure PV array is properly connected into EFOY Cabinet solar input breaker (& solar combiner box)
- Check PV array for proper voltage & polarity
- Check all electrical connections – ensure all breakers & fuses are switched *off* during system set-up
- Set up battery bank as per designated system voltage configuration (12V, 24V, 48V)
- Put Methanol Fuel Cartridges (M28/MT60) into Cabinet
- Secure EFOY onto mounting plate in Cabinet
- Connect EFOY to Methanol Fuel Cartridges (w/ M28 adaptors) – ensuring everything is hand tight
- Connect EFOY exhaust hose & plug in EFOY power cable
- Switch on Battery & EFOY breakers in ProCabinet
- Power up EFOY Fuel Cell – go through start-up process, set-up fuel cartridges & set to Automatic Operation Mode
- Run a Manual-On cycle to ensure the EFOY goes into a charge cycle – will revert back to Automatic mode
- Note: Initial Start-up phase may take up to 20 min
- Switch on all the remaining breakers to activate the solar input to the batteries and power to loads

RECOMMENDED SYSTEM SETTINGS

	EFOY Pro 800	EFOY Pro 2400	EFOY Pro 12000
Switch-on Voltage	12.3V / 24.6V	12.3V / 24.6V	24.4V / 48.8V
Switch-off Voltage	14.2V / 28.4V	14.2V / 28.4V	28.8V / 57.6V
Max Battery Voltage	16.0V / 29.5V	16.0V / 29.5V	29.5V / 59.5V
Max Charge Time	12 – 24 hrs	12 – 24 hrs	12 – 24 hrs
Heat Trace Thermostat	5°C	5°C	5°C
Exhaust Fan Thermostat	30°C	30°C	30°C

RE-FUELING PROCEDURE

- 1) Disconnect M28 Adaptor (which is attached to EFOY fuel hose) from empty M28 Fuel Cartridge (N/A for MT60)
 - 2) Remove empty Fuel Cartridge and position full Fuel Cartridge (M28 or MT60) in place
 - 3) Connect EFOY Fuel Hose (and M28 Adaptor) to full Fuel Cartridge (M28 or MT60)
 - 4) **Always ensure that the M28 Adaptor is secured hand tight to the M28 Fuel Cartridge and that the EFOY Fuel Hose connector is secured hand tight to the M28 Adaptor** or the EFOY pump will not be able to draw methanol properly
 - 5) Re-set Fuel Cartridge(s) that were replaced on Keypad
 - a. Menu – Fuel Cartridges
 - b. Select appropriate cartridge (1, 2 or 1.1, 1.2, 2.1, 2.2)
 - c. Scroll up
 - d. Click Re-Set
 - e. Repeat for all cartridges that have been replaced
 - f. Run a manual-on cycle to ensure system operation
- ✗ **DO NOT** install half empty fuel cartridges & re-set them on the keypad or the fuel level measurement will be off
 - ✗ **DO NOT** cut the connection to the battery bank
 - ✗ **DO NOT** delay during a fuel cartridge exchange – max 30 minutes (risk of freezing)
 - ✓ **DO** ensure there is at least 1 full fuel cartridge connected to the EFOY for proper internal fuel level measurement
 - ✓ **DO** check the exhaust hose to ensure it is free of debris and remove any ice/debris build up below
 - ✓ **DO** keep the fuel cartridge connections clean and free of particles and pollution
 - ✓ **DO** confirm error warning “20/22” by pressing the “ok” button after the cartridge exchange is complete

ERROR CODE TROUBLESHOOTING

- **ERROR 11/18 – EFOY exhaust hose is blocked:** Ensure the water vapor exhaust hose is not blocked, plugged, bent or obstructed in any way – press ok to re-start
- **ERROR 20/22 – EFOY is out of Methanol:** Replace empty fuel cartridges and re-set them on the EFOY Keypad as per the re-fueling procedure instructions
- **ERROR 30/31 – EFOY needs Service Fluid:** Disconnect charge line & water vapor exhaust hose, add Service Fluid as needed, reconnect exhaust hose & charge line, press ok. Ensure sufficient air circulation (see Error 32/41)
- **ERROR 40 – EFOY is Too Cold/Frozen:** Warm EFOY back up to room temp for 24 hours and re-install / re-start. Ensure EFOY is connected to functioning batteries, has fuel available & that fuel cartridge connections are hand tight
- **ERROR 32/41 – EFOY is Too Warm/Overheated:** Confirm air intake & exhaust are not blocked/plugged, that exhaust fan thermostat is set to 30°C and fan is functioning. Unit may need service fluid to re-start if it was overheated for an extended period of time (see Error 30/31)
- **ERROR 50/52 – Low Battery Voltage:** Potential issue with Battery Bank – ensure cable connections are secure and batteries are able to hold a charge. Replace any defective batteries that are at their end of life
- **ERROR 51/53 – High Battery Voltage:** Potential issue with Solar Charge Controller – ensure max voltage setting is limited to **16.0V / 29.5V / 59.5V** depending on battery bank voltage and no Temperature compensation settings are being used that could spike the voltage above this
- **Contact Simark Service for additional troubleshooting support**