

Gas Mixing Interface

Integrated control
for gas mixing

The Gas Mixing Interface provides additional mounting for up to 5 mass flow controllers (MFC's)

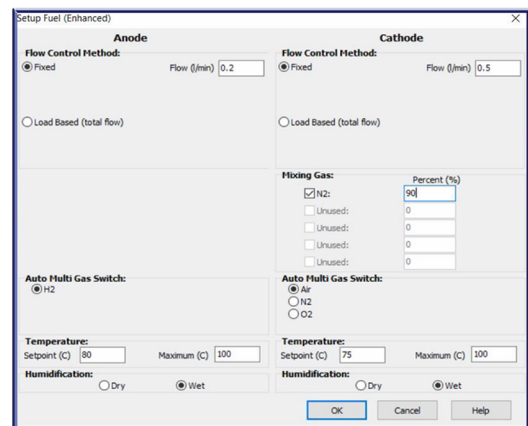
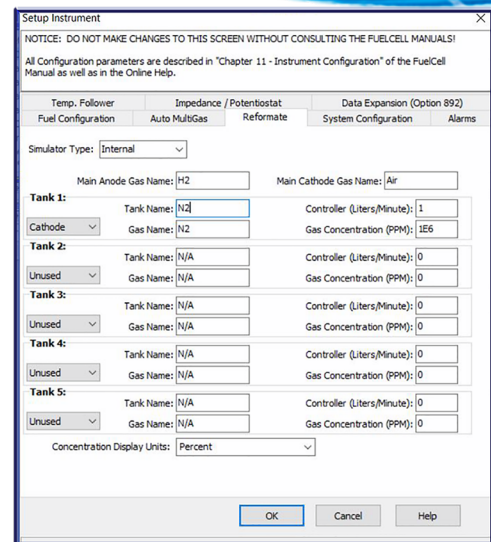
Configuration of FuelCell® software for an 850R External Interface for dilution of Air with N₂ for O₂-mass transport limiting and transport resistance measurements

The Gas Mixing Interface features

- Mounting for up to 5 mass flow controllers (MFCs)
- Plug-and-Play Accessory for 850/855 Fuel Cell Test Systems
- Integrated control of gas mixture type and composition in FuelCell® software
- Industry standard connector for connection of serial / RS485 devices
- Connectors for up to 3 MFCs
- Connectors for External Alarm Input
- Connectors for factory options including furnace control, burp valve control and others

Additional MFC's facilitates gas mixing for

- Reformate simulation – Humidified mix of H₂, CO₂ & CO
- Mass transport limiting studies – Air/O₂ and N₂ mixing for low p_{O₂}
- Impurities and contaminants investigations



CONFIGURATIONS: Gas Mixing Interface

Setup Instrument

NOTICE: DO NOT MAKE CHANGES TO THIS SCREEN WITHOUT CONSULTING THE FUELCELL MANUALS!
All Configuration parameters are described in "Chapter 11 - Instrument Configuration" of the FuelCell Manual as well as in the Online Help.

Temp. Follower	Impedance / Potentiostat	Data Expansion (Option 892)
Fuel Configuration	Auto MultiGas	Reformat
System Configuration	Alarms	

Simulator Type:

Main Anode Gas Name: Main Cathode Gas Name:

Tank 1:	Tank Name: <input type="text" value="H2 + CO2"/>	Controller (Liters/Minute): <input type="text" value="1"/>
<input type="text" value="Anode"/>	Gas Name: <input type="text" value="CO2"/>	Gas Concentration (PPM): <input type="text" value="500000"/>
Tank 2:	Tank Name: <input type="text" value="H2 + CO"/>	Controller (Liters/Minute): <input type="text" value="0.2"/>
<input type="text" value="Anode"/>	Gas Name: <input type="text" value="CO"/>	Gas Concentration (PPM): <input type="text" value="100"/>
Tank 3:	Tank Name: <input type="text" value="H2"/>	Controller (Liters/Minute): <input type="text" value="1"/>
<input type="text" value="Unused"/>	Gas Name: <input type="text" value="H2"/>	Gas Concentration (PPM): <input type="text" value="1E6"/>
Tank 4:	Tank Name: <input type="text" value="O2"/>	Controller (Liters/Minute): <input type="text" value="2"/>
<input type="text" value="Unused"/>	Gas Name: <input type="text" value="O2"/>	Gas Concentration (PPM): <input type="text" value="1E6"/>
Tank 5:	Tank Name: <input type="text" value="N/A"/>	Controller (Liters/Minute): <input type="text" value="0"/>
<input type="text" value="Unused"/>	Gas Name: <input type="text" value="N/A"/>	Gas Concentration (PPM): <input type="text" value="0"/>

Concentration Display Units:

Configuration of FuelCell® software with Gas Mixing Interface for Reformate Simulation, a mixture of humidified H₂, CO₂ and CO

Setup Fuel (Enhanced)

Anode (H2)	Cathode (Air)
Flow Control Method: <input type="radio"/> Fixed <input type="radio"/> Load Based (total flow) <input type="radio"/> Load Based (pure fuel) <input checked="" type="radio"/> Stoichiometric	Flow Control Method: <input type="radio"/> Fixed <input type="radio"/> Load Based (total flow) <input type="radio"/> Load Based (pure fuel) <input checked="" type="radio"/> Stoichiometric
Minimum Flow (l/min) <input type="text" value="0.1"/> Load Based Flow: l/min /Cell <input type="text" value="0.05"/> +l/min /Amp /Cell <input type="text" value="0.011667"/> +l/min /Amp /Cell <input type="text" value="0.0105"/> +Stoich. Ratio <input type="text" value="1.5"/>	Minimum Flow (l/min) <input type="text" value="0.2"/> Load Based Flow: l/min /Cell <input type="text" value="0.05"/> +l/min /Amp /Cell <input type="text" value="0.0416667"/> +l/min /Amp /Cell <input type="text" value="0.00875"/> +Stoich. Ratio <input type="text" value="2.5"/>
Mixing Gas: <input checked="" type="checkbox"/> CO2: <input type="text" value="100000"/> <input checked="" type="checkbox"/> CO: <input type="text" value="25"/> <input type="checkbox"/> Unused: <input type="text" value="0"/> <input type="checkbox"/> Unused: <input type="text" value="0"/> <input type="checkbox"/> Unused: <input type="text" value="0"/>	
Auto Multi Gas Switch: <input checked="" type="radio"/> H2 <input type="radio"/> N2	Auto Multi Gas Switch: <input checked="" type="radio"/> Air <input type="radio"/> N2 <input type="radio"/> O2
Temperature: Setpoint (C) <input type="text" value="75"/> Maximum (C) <input type="text" value="100"/>	Temperature: Setpoint (C) <input type="text" value="68"/> Maximum (C) <input type="text" value="100"/>
Humidification: <input type="radio"/> Dry <input checked="" type="radio"/> Wet	Humidification: <input type="radio"/> Dry <input checked="" type="radio"/> Wet