



(Fuel Cell)
[FC Engine Xpress-1] Overview Diagram



[FC Engine Xpress-1] Spec. (for NHK Nagoya Robot Camera)

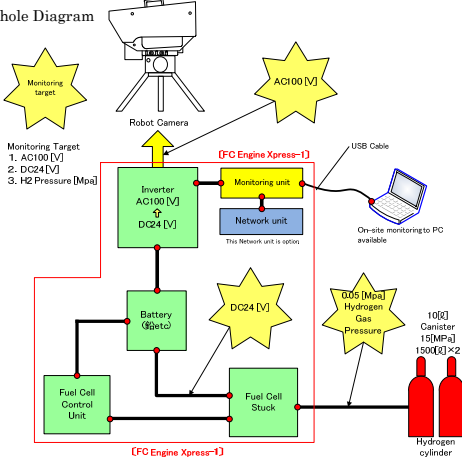


- AC100[V] 3[A] (300[W])
DC24[V] 12.5[A] (300[W])
DC12[V] 25[A] (300[W])
- Simple Waterproof (Useable Outdoor)
- C o₂ Zero Emission.
- Continuous operation 720Hour (30Day) Maintenance Free.
(Condition 4 7 [0] Canister 15[MPa] Hydrogen Gas 7000[0]x 5)
- Continuous Total Generation Capacity 1 4 3 0 Wh/Day
- Fuel consumption (1[Wh] Output)
H2 Gas Consumption 1.013 [0] (¥0.14-) 【1kWh:¥140-】
- H2 Gas After blocking
Over 24[h] by 50[Wh] Output
Can provide continuous over 3[h] by 300 [Wh] output

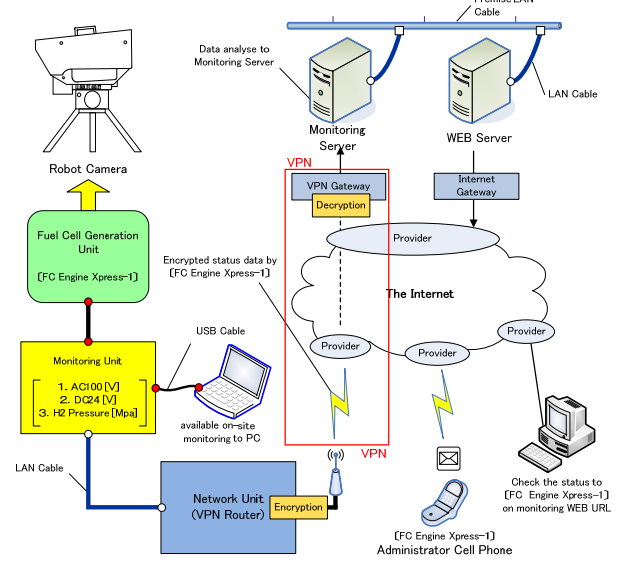
This system is easy viewing demonstration machine for [Fuel Cell Power Generation System]
 Actual products are not mounted measuring instrument (Voltmeter, Ammeter, etc.)
 Actual products volume is about 30[0] (about 1/3 to demonstration machine)

[FC Engine Xpress-1] Monitoring System Overview

System Whole Diagram



[FC Engine Xpress-1] Monitoring Network System Diagram



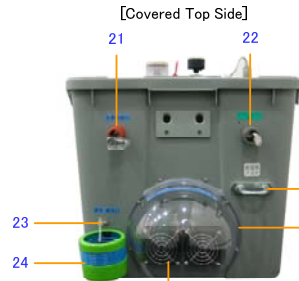
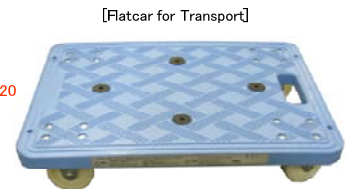
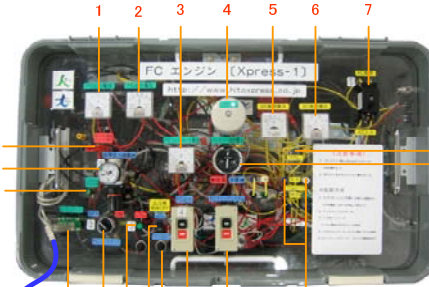
[FC Engine Xpress-1] Monitoring Network System Features

- If a malfunction occurs on monitoring target, Inform to system administrator cell-phone by E-mail.
 - 1-1. Voltage fall detect at 100[V] → Yellow luminescence & Alert Buzzer
 - 1-2. Voltage fall detect at FC power (DC24[V]) → Red luminescence & Alert Buzzer
 - 1-3. Pressure fall detect at H2 Pressure → Green luminescence & Alert Buzzer
- High secure networking by VPN (Virtual Private Network)
- Check the FC engine status on URL (<http://nnindex.com/xpress-1/>) by WEB server.
- Even in the Internet environment is not yet mature, so the unit is equipped with mobile communication capabilities (WiMAX etc.). FC Engine status data can be sent to the monitoring server.

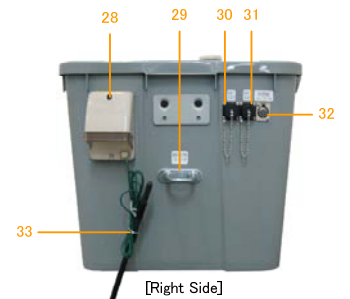
Size of [FC Engine Xpress-1]
 W(890mm) × D(450mm) × H(500mm)
 Volume 100[0]

(Fuel Cell)
[FC Engine Xpress-1] Parts Name

Size of Flatcar
 W(500mm) × D(370mm) × H(110mm)



On-site Monitoring PC



- | | |
|---|---|
| 1 FC Output Ammeter (A) | 12 FC Controller ON/OFF Switch |
| 2 FC Output Voltmeter (V) | 13 Generate Boot Switch |
| 3 FC Controller Ammeter | 14 FC SCU Switch |
| 4 Monitoring System Warning Light | 15 FC Controller Fuse (7[A]) |
| 5 AC100V Load Ammeter (A) | 16 FC Output ON/OFF Switch |
| 6 AC100V Load Voltmeter (V) | 17 Monitoring System ON/OFF Switch |
| 7 AC Load Switch | 18 Power Totalizer, Using a power meter Connector |
| 8 DC24V Alert Check Terminal | 19 Battery Charge/Discharge Monitoring Ammeter |
| 9 Hydrogen Pressure regulation Valve | 20 AC100V ripple mark Check Terminal (RS232C→USB Convert) |
| 10 Out of hydrogen Detect Signal Terminal | |
| 11 Monitoring System Maintenance Terminal | |

- | | |
|----------------------------------|--|
| 21 Hydrogen Inlet | 28 AC100[V] electrical outlet (Waterproof) |
| 22 Monitoring System Output Port | 29 Fixing hook (for Earthquake) |
| 23 Drain Port | 30 DC12[V] Output Port |
| 24 Drain Tray | 31 DC24[V] Output Port |
| 25 FC Cooling Fan | 32 NHK Robot Camera Connector (DC24V) |
| 26 Drain Port Waterproof Cover | 33 Earth Rod |
| 27 Fixing hook | 34 Fixing Rubber feet |

FC power generation system [FC Engine Xpress series] monitoring network system detailed chart

FC 発電システム [FC エンジン Xpress シリーズ] モニタリングネットワークシステム詳細図

