



Opencockpits



Manual Fire Engines B737 Module P&P.

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Introduction:

Module Fire Engines B737 USB connection with professional painted finish and engraved.

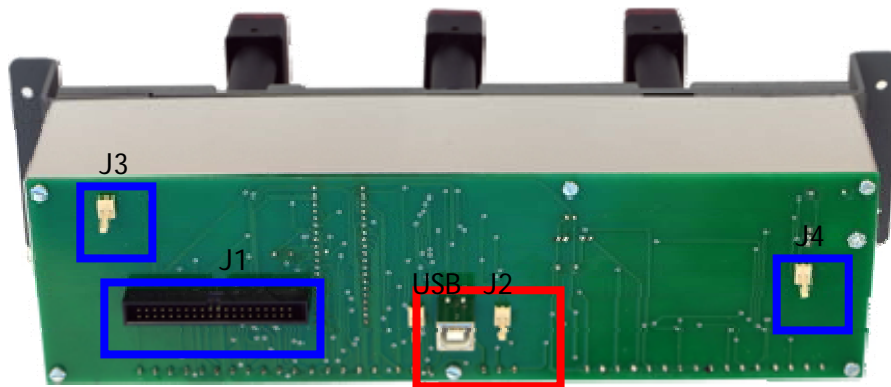
This module can operate completely independently or become IDC panel to connect to the PCB Pedestal.

The panel has operative the following components:

- Selection & test switches.
- Warning and discharge indicators.
- Fire handles fully operative (without security triggers).
- It is closed with an elegant aluminium screwed box.

Wiring:

The module connection is made with a USB connector and a 5V power plug, also has another 40-pin connector and two backlight power plugs when placed in IDC panel mode if required.

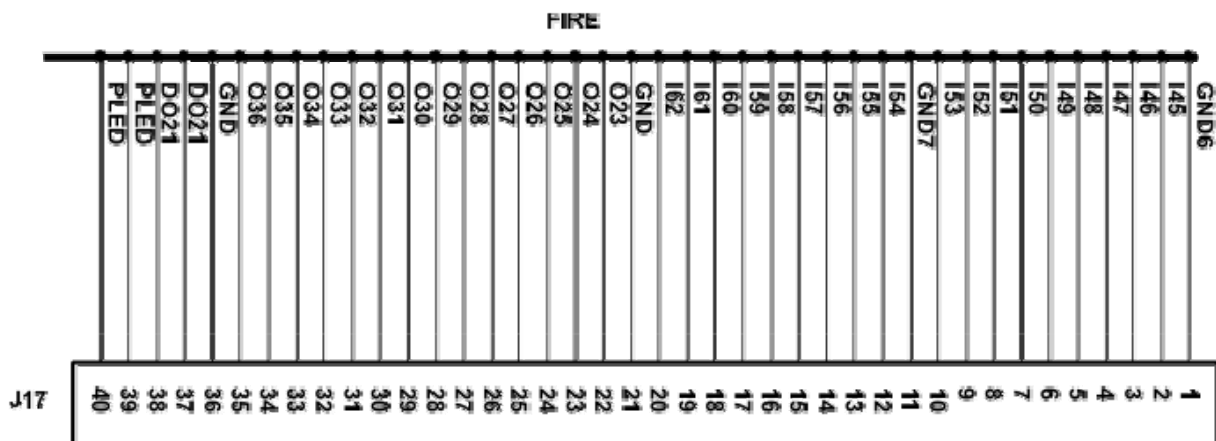


P&P mode wiring:

In P&P mode, simply connect the USB cable and 5V supply (J2). There is the possibility to feed directly from the USB cable, closing SW1 (inside) and not using the external power supply (not recommended).

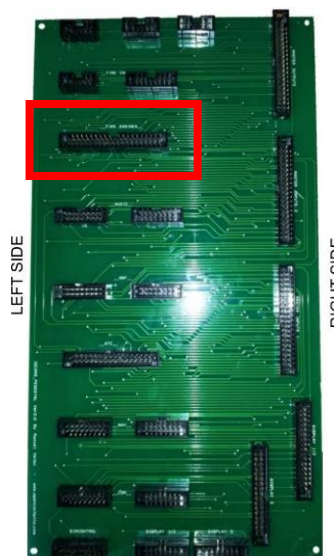
IDC panel mode wiring:

In IDC panel mode, connect the 40 pins IDC cable to J1 (panel) and to J17 (PCB Pedestal) and feed both J3 & J4 with 2.5V to 2.9V. opening the jumpers SW2, SW3 & SW4 (placed inside).



The names of the connectors on the PCB panel and the pedestal are the following:

MODULE	PCB PEDESTAL
J1	J17



Description of connectors Fire Engines:

The panel on IDC mode is connected to the PCB Pedestal 1 (captain's side) when a Fire Cargo is present in the assemble too because they are incompatibles in the same PCB Pedestal (they use some same outputs and inputs).

J17 CONNECTOR		
I/O	PIN	FUNCTION
GND6	1	GND common inputs I45...I53
I45	2	OVHT DET B LEFT (1)
I46	3	OVHT DET A LEFT (1)
I47	4	TEST OVH FIRE
I48	5	TEST FAULT INOP
I49	6	BELL CUT OUT
I50	7	OVHT DET B RIGHT (2)
I51	8	OVHT DET A RIGHT (2)
I52	9	ENGINE EXTINGUISHER TEST 2
I53	10	ENGINE EXTINGUISHER TEST 1
GND7	11	GND common inputs I54...I62
I54	12	HANDLE 1 LEFT DISCH
I55	13	HANDLE 1 PULL (Switch off when pulled and on when pushed)
I56	14	HANDLE 1 RIGHT DISCH
I57	15	HANDLE APU LEFT DISCH
I58	16	HANDLE APU PULL (Switch off when pulled and on when pushed)
I59	17	HANDLE APU RIGHT DISCH
I60	18	HANDLE 2 LEFT DISCH
I61	19	HANDLE 2 PULL (Switch off when pulled and on when pushed)
I62	20	HANDLE 2 RIGHT DISCH
GND	21	Common outputs O23...O36
O23	22	ENG 1 OVERHEAT
O24	23	APU BOTTLE DISCHARGE INDICATOR
O25	24	APU DET INOP INDICATOR
O26	25	FAULT INDICATOR
O27	26	WHEEL WELL INDICATOR
O28	27	ENG 2 OVERHEAT
O29	28	L BOTTLE DISCHARGE
O30	29	R BOTTLE DISCHARGE
O31	30	HANDLE 1 ACTIVATED (red led)
O32	31	HANDLE APU ACTIVATED (red led)

O33	32	HANDLE 2 ACTIVATED (red led)
O34	33	L GREEN LED
O35	34	APU GREEN LED
O36	35	R GREEN LED
GND	36	Common outputs O23...O36
DO21	37	Negative for backlight
DO21	38	Negative for backlight
PLED	39	Positive for backlight
PLED	40	Positive for backlight
It takes 2.5 volts to 2.9 volts.		
¡ActiveWarning: may burn more voltage backlight!		

The USBDimcontrol card is recommended. It is also recommended to use 3 volt power for the backlight.

Declaration of inputs and outputs:

Like a module it uses fixed inputs and outputs and running like IDC panel has other inputs and outputs, will see both:

Inputs and outputs mode P&P.

// OUTPUTS FIRE ENGINES P&P

Var 248, name ENG1_OVHL, STATIC, Link IOCARD_OUT, DEVICE XX, Output 7 // ENGINE 1 OVERHEAT

Var 250, name APUBOTDISL, STATIC, Link IOCARD_OUT, DEVICE XX, Output 6 // APU BOTTLE DISCHARGE

Var 252, name APUDETINOPL, STATIC, Link IOCARD_OUT, DEVICE XX, Output 5 // APU DET INOPERATIVE

Var 254, name FIREFAULTL, STATIC, Link IOCARD_OUT, DEVICE XX, Output 4 // FIRE ENGINES FAULT

Var 256, name FIREWHELLL, STATIC, Link IOCARD_OUT, DEVICE XX, Output 3 // FIRE WHELL WELL

Var 258, name ENG2_OVHL, STATIC, Link IOCARD_OUT, DEVICE XX, Output 2 // ENGINE 2 OVERHEAT

Var 260, name LBOTDISL, STATIC, Link IOCARD_OUT, DEVICE XX, Output 1 // ENGINE 1 BOTTLE DISCHARGE

Var 262, name RBOTDISL, STATIC, Link IOCARD_OUT, DEVICE XX, Output 0 // ENGINE 2 BOTTLE DISCHARGE

Var 264, name FIRE1L, STATIC, Link IOCARD_OUT, DEVICE XX, Output 15 // ENGINE 1 FIRE HANDLE LIGHT

Var 266, name FIREAL, STATIC, Link IOCARD_OUT, DEVICE XX, Output 14 // APU FIRE HANDLE LIGHT

Var 268, name FIRE2L, STATIC, Link IOCARD_OUT, DEVICE XX, Output 13 // ENGINE 2 FIRE HANDLE LIGHT

Var 270, name FIREG1L, STATIC, Link IOCARD_OUT, DEVICE XX, Output 12 // FIRE ENGINE 1 GREEN LED

Var 272, name FIREGAL, STATIC, Link IOCARD_OUT, DEVICE XX, Output 11 // FIRE APU GREEN LED

Var 274, name FIREG2L, STATIC, Link IOCARD_OUT, DEVICE XX, Output 10 // FIRE ENGINE 2 GREEN LED

// INPUTS FIRE ENGINES P&P

Var 500, name S_OVHTDET1A, STATIC, Link IOCARD_SW, DEVICE XX, Input 1 // FIRE ENGINE 1 OVERHEAT A DETECTOR SWITCH

Var 502, name S_OVHTDET1B, STATIC, Link IOCARD_SW, DEVICE XX, Input 0 // FIRE ENGINE 1 OVERHEAT B DETECTOR SWITCH

Var 504, name S_FETSTOVH, STATIC, Link IOCARD_SW, DEVICE XX, Input 2 // FIRE ENGINES TEST OVH-FIRE SWITCH
 Var 506, name S_FETSTFAULT, STATIC, Link IOCARD_SW, DEVICE XX, Input 3 // FIRE ENGINES TEST FAULT-INOP SWITCH
 Var 508, name S_BELLCOUT, STATIC, Link IOCARD_SW, DEVICE XX, Input 4 // FIRE ENGINES BELL CUT OUT SWITCH
 Var 510, name S_OVHTDET2A, STATIC, Link IOCARD_SW, DEVICE XX, Input 6 // FIRE ENGINE 2 OVERHEAT A DETECTOR SWITCH
 Var 512, name S_OVHTDET2B, STATIC, Link IOCARD_SW, DEVICE XX, Input 5 // FIRE ENGINE 2 OVERHEAT B DETECTOR SWITCH
 Var 514, name S_EXT1TEST, STATIC, Link IOCARD_SW, DEVICE XX, Input 9 // FIRE ENGINE EXTINGUISHER 1 TEST SWITCH
 Var 516, name S_EXT2TEST, STATIC, Link IOCARD_SW, DEVICE XX, Input 7 // FIRE ENGINE EXTINGUISHER 2 TEST SWITCH
 Var 518, name S_HND1DW, STATIC, Link IOCARD_SW, DEVICE XX, Input 11 // FIRE ENGINE HANDLE 1 DW SWITCH
 Var 520, name S_HND1L, STATIC, Link IOCARD_SW, DEVICE XX, Input 10 // FIRE ENGINE HANDLE 1 LEFT SWITCH
 Var 522, name S_HND1R, STATIC, Link IOCARD_SW, DEVICE XX, Input 12 // FIRE ENGINE HANDLE 1 RIGHT SWITCH
 Var 524, name S_HNDADW, STATIC, Link IOCARD_SW, DEVICE XX, Input 14 // FIRE ENGINE HANDLE APU DW SWITCH
 Var 526, name S_HNDAL, STATIC, Link IOCARD_SW, DEVICE XX, Input 13 // FIRE ENGINE HANDLE APU LEFT SWITCH
 Var 528, name S_HNDAR, STATIC, Link IOCARD_SW, DEVICE XX, Input 15 // FIRE ENGINE HANDLE APU RIGHT SWITCH
 Var 530, name S_HND2DW, STATIC, Link IOCARD_SW, DEVICE XX, Input 18 // FIRE ENGINE HANDLE 2 DW SWITCH
 Var 532, name S_HND2L, STATIC, Link IOCARD_SW, DEVICE XX, Input 16 // FIRE ENGINE HANDLE 2 LEFT SWITCH
 Var 534, name S_HND2R, STATIC, Link IOCARD_SW, DEVICE XX, Input 19 // FIRE ENGINE HANDLE 2 RIGHT SWITCH

Inputs and outputs mode IDC.

// OUTPUTS FIRE ENGINES IDC

Var 248, name ENG1_OVHL, Link IOCARD_OUT, DEVICE XX, Output 23 // ENGINE 1 OVERHEAT
 Var 250, name APUBOTDISL, Link IOCARD_OUT, DEVICE XX, Output 24 // APU BOTTLE DISCHARGE
 Var 252, name APUDETINOPL, Link IOCARD_OUT, DEVICE XX, Output 25 // APU DET INOPERATIVE
 Var 254, name FIREFAULTL, Link IOCARD_OUT, DEVICE XX, Output 26 // FIRE ENGINES FAULT
 Var 256, name FIREWHELLL, Link IOCARD_OUT, DEVICE XX, Output 27 // FIRE WHELL WELL
 Var 258, name ENG2_OVHL, Link IOCARD_OUT, DEVICE XX, Output 28 // ENGINE 2 OVERHEAT
 Var 260, name LBOTDISL, Link IOCARD_OUT, DEVICE XX, Output 29 // ENGINE 1 BOTTLE DISCHARGE
 Var 262, name RBOTDISL, Link IOCARD_OUT, DEVICE XX, Output 30 // ENGINE 2 BOTTLE DISCHARGE
 Var 264, name FIRE1L, Link IOCARD_OUT, DEVICE XX, Output 31 // ENGINE 1 FIRE HANDLE LIGHT
 Var 266, name FIREAL, Link IOCARD_OUT, DEVICE XX, Output 32 // APU FIRE HANDLE LIGHT
 Var 268, name FIRE2L, Link IOCARD_OUT, DEVICE XX, Output 33 // ENGINE 2 FIRE HANDLE LIGHT

Var 270, name FIREG1L, Link IOCARD_OUT, DEVICE XX, Output 34 // FIRE ENGINE 1 GREEN LED
 Var 272, name FIREGAL, Link IOCARD_OUT, DEVICE XX, Output 35 // FIRE APU GREEN LED
 Var 274, name FIREG2L, Link IOCARD_OUT, DEVICE XX, Output 36 // FIRE ENGINE 2 GREEN LED

// INPUTS FIRE ENGINES IDC
 Var 500, name S_OVHTDET1A, Link IOCARD_SW, DEVICE XX, Input 46 // FIRE ENGINE 1 OVERHEAT A DETECTOR SWITCH
 Var 502, name S_OVHTDET1B, Link IOCARD_SW, DEVICE XX, Input 45 // FIRE ENGINE 1 OVERHEAT B DETECTOR SWITCH
 Var 504, name S_FETSTOVH, Link IOCARD_SW, DEVICE XX, Input 47 // FIRE ENGINES TEST OVH-FIRE SWITCH
 Var 506, name S_FETSTFAULT, Link IOCARD_SW, DEVICE XX, Input 48 // FIRE ENGINES TEST FAULT-INOP SWITCH
 Var 508, name S_BELLCOUT, Link IOCARD_SW, DEVICE XX, Input 49 // FIRE ENGINES BELL CUT OUT SWITCH
 Var 510, name S_OVHTDET2A, Link IOCARD_SW, DEVICE XX, Input 51 // FIRE ENGINE 2 OVERHEAT A DETECTOR SWITCH
 Var 512, name S_OVHTDET2B, Link IOCARD_SW, DEVICE XX, Input 50 // FIRE ENGINE 2 OVERHEAT B DETECTOR SWITCH
 Var 514, name S_EXT1TEST, Link IOCARD_SW, DEVICE XX, Input 53 // FIRE ENGINE EXTINGUISHER 1 TEST SWITCH
 Var 516, name S_EXT2TEST, Link IOCARD_SW, DEVICE XX, Input 52 // FIRE ENGINE EXTINGUISHER 2 TEST SWITCH
 Var 518, name S_HND1DW, Link IOCARD_SW, DEVICE XX, Input 55 // FIRE ENGINE HANDLE 1 DW SWITCH
 Var 520, name S_HND1L, Link IOCARD_SW, DEVICE XX, Input 54 // FIRE ENGINE HANDLE 1 LEFT SWITCH
 Var 522, name S_HND1R, Link IOCARD_SW, DEVICE XX, Input 56 // FIRE ENGINE HANDLE 1 RIGHT SWITCH
 Var 524, name S_HNDADW, Link IOCARD_SW, DEVICE XX, Input 58 // FIRE ENGINE HANDLE APU DW SWITCH
 Var 526, name S_HNDAL, Link IOCARD_SW, DEVICE XX, Input 57 // FIRE ENGINE HANDLE APU LEFT SWITCH
 Var 528, name S_HNDAR, Link IOCARD_SW, DEVICE XX, Input 59 // FIRE ENGINE HANDLE APU RIGHT SWITCH
 Var 530, name S_HND2DW, Link IOCARD_SW, DEVICE XX, Input 61 // FIRE ENGINE HANDLE 2 DW SWITCH
 Var 532, name S_HND2L, Link IOCARD_SW, DEVICE XX, Input 60 // FIRE ENGINE HANDLE 2 LEFT SWITCH
 Var 534, name S_HND2R, Link IOCARD_SW, DEVICE XX, Input 62 // FIRE ENGINE HANDLE 2 RIGHT SWITCH

With this we end this manual, we invite you to read the manuals for the other elements of Opencockpits and SIOC software and we thank you for trusting us.

Links of interest:

Customer Support Zone:

<http://www.opencockpits.com/catalog/info/>