



## EPC Connect specification sheet

**Typhoon HIL contact person**

Edwin Fonkwe

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(NAME)

**14.01.2016.**

## HIL CONNECT ANALOG OUTPUTS

[illegible]



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Color code inverter 1 Color code Inverter 2

### HIL CONNECT ANALOG INPUTS

HIL ANA out	Rating	Input impedance	Connector Type	Connector	Signal (Oztek ANA in)	Signal description (EPC description)	Comments	HIL scaling
AO1	+/- 10V		Molex Flat ribbon (AMP) 1658621-6	J11 and J13	J11 Pin 13 and J13 pin 13	INV_UDC		
AO2	+/- 10V		Molex Flat ribbon (AMP) 1658621-7	J11	J11 Pin 22 and J11 pin 24	EPC Phase C1 current and EPC Phase C2 current		
AO3	+/- 10V		Molex Flat ribbon (AMP) 1658621-8	J11 and J13	J11 Pin 26 and J13 pin 22	EPC Phase B1 current and EPC Phase B2 current		
AO4	+/- 10V		Molex Flat ribbon (AMP) 1658621-9	J13	J13 Pin 24 and J13 Pin 26	EPC Phase A1 current and EPC Phase A2 current		
AGND	+/- 10V	(Molex) Micro-Fit 2 Position Receptacle: 43645-0	J4, J5, J6	J4 pin 1, J5 pin 1, J6 pin 1	Aux Temp B, Aux Temp A, and Aux Temp C	E GROUND THIS UNITL WE FIGURE OUT OPAMP ISSUES		
AO6	+/- 10V		Clip cable	J23	Pin 1	Line voltage phase A	en, we need your opinion on this particular connector	
AO7	+/- 10V		Clip cable	J23	Pin 4	Line voltage phase B	en, we need your opinion on this particular connector	
AO8	+/- 10V		Clip cable	J23	Pin 7	Line voltage phase C	en, we need your opinion on this particular connector	
AO9	+/- 10V		(Molex) Micro-Fit 6 Receptacle: 43645-0600	J20	Pin 2	Remote sense Phase A		
AO10	+/- 10V		(Molex) Micro-Fit 6 Receptacle: 43645-0600	J20	Pin 3	Remote sense Phase B		
AO11	+/- 10V		(Molex) Micro-Fit 6 Receptacle: 43645-0600	J20	Pin 4	Remote sense Phase C		
AO12	+/- 10V		Molex Flat ribbon (AMP) 1658621-6	J11 and J13	J11 Pin 13 and J13 pin 13	INV_UDC		
AO13	+/- 10V		Molex Flat ribbon (AMP) 1658621-6	J11	J11 Pin 22 and J11 pin 24	EPC Phase C1 current and EPC Phase C2 current		
AO14	+/- 10V		Molex Flat ribbon (AMP) 1658621-6	J11 and J13	J11 Pin 26 and J13 pin 22	EPC Phase B1 current and EPC Phase B2 current		
AO15	+/- 10V		Molex Flat ribbon (AMP) 1658621-6	J13	J13 Pin 24 and J13 Pin 26	EPC Phase A1 current and EPC Phase A2 current		
AGND	+/- 10V	(Molex) Micro-Fit 2 Position Receptacle: 43645-0	J4, J5, J6	J4 pin 1, J5 pin 1, J6 pin 1	Aux Temp B, Aux Temp A, and Aux Temp C			
AO17	+/- 10V		Clip cable	J23	Pin 1	Line voltage phase A	en, we need your opinion on this particular connector	
AO18	+/- 10V		Clip cable	J23	Pin 4	Line voltage phase B	en, we need your opinion on this particular connector	
AO19	+/- 10V		Clip cable	J23	Pin 7	Line voltage phase C	en, we need your opinion on this particular connector	
AO20	+/- 10V		(Molex) Micro-Fit 6 Receptacle: 43645-0600	J20	Pin 2	Remote sense phase A		
AO21	+/- 10V		(Molex) Micro-Fit 6 Receptacle: 43645-0600	J20	Pin 3	Remote sense phase B		
AO22	+/- 10V		(Molex) Micro-Fit 6 Receptacle: 43645-0600	J20	Pin 4	Remote sense phase C		
AGND	GND		Molex Flat ribbon (AMP) 1658621-6	J11	Pin 21	EPC Phase C1 return		
AGND	GND		Molex Flat ribbon (AMP) 1658621-6	J11	Pin 23	EPC Phase C2 return		
AGND	GND		Molex Flat ribbon (AMP) 1658621-6	J11	Pin 25	EPC Phase B1 return		
AGND	GND		Molex Flat ribbon (AMP) 1658621-6	J13	Pin 23	EPC Phase A1 return		
AGND	GND		Molex Flat ribbon (AMP) 1658621-6	J13	Pin 25	EPC Phase A2 return		
AGND	GND	(Molex) Micro-Fit 2 Position Receptacle: 43645-0	J4, J5, J6	J4 pin 2, J5 pin 2, J6 pin 2	Ground Aux Temp B, Aux Temp A, and Aux Temp C	E GROUND THIS UNITL WE FIGURE OUT OPAMP ISSUES		
AGND	GND		Molex Flat ribbon	J13	Pin 21	EPC Phase B2 return		
AGND	GND		Molex Flat ribbon	J11	Pin 21	EPC Phase C1 return		
AGND	GND		Molex Flat ribbon	J11	Pin 23	EPC Phase C2 return		
AGND	GND		Molex Flat ribbon	J11	Pin 25	EPC Phase B1 return		
AGND	GND		Molex Flat ribbon	J13	Pin 23	EPC Phase A1 return		
AGND	GND		Molex Flat ribbon	J13	Pin 25	EPC Phase A2 return		
AGND	GND		Molex Flat ribbon	J13	Pin 21	EPC Phase B2 return		
AGND	GND		Molex	J4, J5, J6	J4 pin 2, J5 pin 2, J6 pin 2	Ground Aux Temp B, Aux Temp A, and Aux Temp C		
AGND	GND		Molex micro fit 6	J20	Pin 6	Remote sense ISO Gnd		
AGND	GND		Molex micro fit 6	J20	Pin 6	Remote sense ISO Gnd		



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## HIL CONNECT DIGITAL OUTPUTS

HIL input	Rating	Output impedance	Connector Type	Connector	Signal (Oztek output)	Signal description	Comments
DI1	0 - 15V	100 ohm	Molex Flat ribbon (AMP) 1658621-6	J11	Pin 4	Sc1_top	EPC board 1
DI2	0 - 15V	100 ohm	Molex Flat ribbon (AMP) 1658621-6	J11	Pin 2	Sc1_bottom	
DI3	0 - 15V	100 ohm	Molex Flat ribbon (AMP) 1658621-6	J11	Pin 10	Sb1_top	
DI4	0 - 15V	100 ohm	Molex Flat ribbon (AMP) 1658621-6	J11	Pin 8	Sb1_bottom	
DI5	0 - 15V	100 ohm	Molex Flat ribbon (AMP) 1658621-6	J13	Pin 7	Sa1_top	
DI6	0 - 15V	100 ohm	Molex Flat ribbon (AMP) 1658621-6	J13	Pin 5	Sa1_bottom	
DI7			(Molex) Micro-Fit 2x4 Receptacle: 43025-08	J8	Pin 1	Contactor K2	ires 10k ohm res between pin and ground
DI8			(Molex) Micro-Fit 2x4 Receptacle: 43025-08	J8	Pin 2	Contactor K1	ires 10k ohm res between pin and ground
DI9			(Molex) Micro-Fit 2x4 Receptacle: 43025-08	J8	Pin 3	Contactor MX2	ires 10k ohm res between pin and ground
DI10			(Molex) Micro-Fit 2x4 Receptacle: 43025-08	J8	Pin 4	Contactor MX1	ires 10k ohm res between pin and ground
DI11			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 5	To be announced	
DI12			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 6	To be announced	
DI13			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 7	To be announced	
DI14			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 8	To be announced	
DI15	0 - 15V	100 ohm	Molex Flat ribbon (AMP) 1658621-6	J11	Pin 4	Sc1_top	EPC board 2
DI16			Molex Flat ribbon (AMP) 1658621-6	J11	Pin 2	Sc1_bottom	
DI17			Molex Flat ribbon (AMP) 1658621-6	J11	Pin 10	Sb1_top	
DI18			Molex Flat ribbon (AMP) 1658621-6	J11	Pin 8	Sb1_bottom	
DI19			Molex Flat ribbon (AMP) 1658621-6	J13	Pin 7	Sa1_top	
DI20			Molex Flat ribbon (AMP) 1658621-6	J13	Pin 5	Sa1_bottom	
DI21			(Molex) Micro-Fit 2x4 Receptacle: 43025-08	J8	Pin 1	Contactor K2	ires 10k ohm res between pin and ground
DI22			(Molex) Micro-Fit 2x4 Receptacle: 43025-08	J8	Pin 2	Contactor K1	ires 10k ohm res between pin and ground
DI23			(Molex) Micro-Fit 2x4 Receptacle: 43025-08	J8	Pin 3	Contactor MX2	ires 10k ohm res between pin and ground
DI24			(Molex) Micro-Fit 2x4 Receptacle: 43025-08	J8	Pin 4	Contactor MX1	ires 10k ohm res between pin and ground
DI25			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 5	To be announced	
DI26			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 6	To be announced	
DI27			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 7	To be announced	
DI28			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 8	To be announced	
DI29							
DI30							
DI31							
DI32							
DIG GND				J11	Pin 1		EPC Board 1
DIG GND				J11	Pin 18		
DIG GND				J11	Pin 19		
DIG GND				J13	Pin 1		
DIG GND				J13	Pin 18		
DIG GND				J13	Pin 19		
DIG GND			(Molex) Micro-Fit 2x4 Receptacle: 43025-08	J8	Pins 5-8		
DIG GND				J11	Pin 1		EPC Board 2
DIG GND				J11	Pin 18		
DIG GND				J11	Pin 19		
DIG GND				J13	Pin 1		
DIG GND				J13	Pin 18		
DIG GND				J13	Pin 19		
DIG GND			(Molex) Micro-Fit 2x4 Receptacle: 43025-08	J8	Pin 5-8		
+3.3V or +5V			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 1		EPC Board 1
+3.3V or +5V			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 2		
+3.3V or +5V			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 3		
+3.3V or +5V			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 4		
+3.3V or +5V			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 1		EPC Board 2
+3.3V or +5V			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 2		
+3.3V or +5V			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 3		
+3.3V or +5V			Molex micro-fit 2x4 receptacle: 43025-08C	J10	Pin 4		



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## HIL CONNECT DIGITAL INPUTS

HIL Output	Rating	Input impedance	Connector Type	Connector	Signal	Signal description	Comments
DO1	+3.3V	Molex micro-fit 2x4	receptacle	J9	Pin 1	ISO_DI0	EPC Board 1
DO2	+3.3V	Molex micro-fit 2x4	receptacle	J9	Pin 2	ISO_DI1	
DO3	+3.3V	Molex micro-fit 2x4	receptacle	J9	Pin 3	ISO_DI2	
DO4	+3.3V	Molex micro-fit 2x4	receptacle	J9	Pin 4	ISO_DI3	
DO5	+3.3V	Molex micro-fit 2x4	receptacle	J9	Pin 1	ISO_DI0	EPC Board 2
DO6	+3.3V	Molex micro-fit 2x4	receptacle	J9	Pin 2	ISO_DI1	
DO7	+3.3V	Molex micro-fit 2x4	receptacle	J9	Pin 3	ISO_DI2	
DO8	+3.3V	Molex micro-fit 2x4	receptacle	J9	Pin 4	ISO_DI3	
DO9							
DO10							
DO11							
DO12							
DO13							
DO14							
DO15							
DO16							
DO17							
DO18							
DO19							
DO20							
DO21							
DO22							
DO23							
DO24							
DO25							
DO26							
DO27							
DO28							
DO29							
DO30							
DO31							
DO32							
DIG GND				J9	Pin 5	RTN	EPC board 1
DIG GND				J9	Pin 6	RTN	
DIG GND				J9	Pin 7	RTN	
DIG GND				J9	Pin 8	RTN	
DIG GND				J9	Pin 5	RTN	Board 2
DIG GND				J10	Pin 6	RTN	
DIG GND				J11	Pin 7	RTN	
DIG GND				J12	Pin 8	RTN	