



ACS550 Wiring and Parameters for Nexus Controls (Non-bypass)

October 19, 2020

Both the Nexus 4000 (NXF4000 and PPC4000) and Nexus 6000 (NX6100 and PPC6000) series controls can connect to an ABB ACS550 VFD for closed loop control. For the 4000 series requires the NXCESVFD card to be added, while the 6000 series requires the NXDBVSD card to be added.

PARAMETERS

There are multiple ways to enter the parameters into the drive:

1. Using the attached keypad
2. DriveWindow Light* software (Windows) via USB serial port converter

* – Software supplied by ABB, search abb.com for additional details and to download.

Number	Name	Value
Group 99: Start-Up Data		
9905	MOTOR NOM VOLT	*set during start-up*
9906	MOTOR NOM CURR	*set during start-up*
9907	MOTOR NOM FREQ	*set during start-up*
9908	MOTOR NOM SPEED	*set during start-up*
9909	MOTOR NOM POWER	*set during start-up*
Group 10: Start/Stop/Dir		
1001	EXT1 COMMANDS	DI 1
1003	DIRECTION	FORWARD
Group 11: Reference Select		
1103	REF1 SELECT	AI 1
1104	REF1 MIN	*min frequency* (ex: 30.0 Hz)
1105	REF1 MAX	*max frequency* (ex: 60.0 Hz)
Group 13: Analogue Inputs		
1301	MINIMUM AI1	20.0 %
1302	MAXIMUM AI1	100.0 %
1303	FILTER AI1	2.0 s
Group 15: Analogue Outputs		
1501	AO1 CONTENT SEL	OUTPUT FREQ
1502	AO1 CONTENT MIN	*min frequency* (ex: 30.0 Hz)
1503	AO1 CONTENT MAX	*max frequency* (ex: 60.0 Hz)
1504	MINIMUM AO1	4.0 mA
1505	MAXIMUM AO1	20.0 mA
Group 16: System Controls		
1606	LOCAL LOCK	ON
Group 20: Limits		
2007	MINIMUM FREQ	*min frequency* (ex: 30.0 Hz)
2008	MAXIMUM FREQ	*max frequency* (ex: 60.0 Hz)





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Number	Name	Value
Group 21: Start/Stop		
2101	START FUNCTION	DC MAGN
Group 22: Accel/Decel		
2201	ACC/DEC 1/2 SEL	NOT SEL
2202	ACCELER TIME 1	30.0 s
2203	DECELER TIME 1	30.0 s
Group 30: Fault Functions		
3001	PANEL COMM ERR	LAST SPEED
Group 34: Panel Display / Process Variables		
3408	SIGNAL 2 PARAM	AI 1
3411	OUTPUT 2 DSP FORM	+0.0
3412	OUTPUT 2 UNIT	mA
3413	OUTPUT 2 MIN	4.0 mA
3414	OUTPUT 2 MAX	20.0 mA
3415	SIGNAL 3 PARAM	AO 1
3418	OUTPUT 3 DSP FORM	+0.0
3419	OUTPUT 3 UNIT	mA
3420	OUTPUT 3 MIN	4.0 mA
3421	OUTPUT 3 MAX	20.0 mA

Parameter notes:

- Analog input filter time should be set appropriately to ensure a smooth input signal.
- When a minimum and maximum frequency are selected, the same value should be entered for all parameters that reference them in the chart above. The range does not have to be 0-60Hz if the scaling is consistent. It is often advised to set the minimum frequency high enough to ensure adequate motor cooling in the event of prolonged operation at low frequencies.
- Best practice is to always set the direction to forward. If the motor rotates in the wrong direction, swap any two leads from the drive output to the motor where they connect at the drive. Do not swap incoming drive power as this will not affect rotation.
- There are three lines on the attached keypad that show output frequency, motor current and motor torque by default. For troubleshooting, it is best to replace the motor current and motor torque shown on the second and third lines with the 4-20mA values of the analog input and analog output used to communicate with the Nexus control. This can help to show any discrepancies with the feedback. The output frequency shown on the first line will be retained.

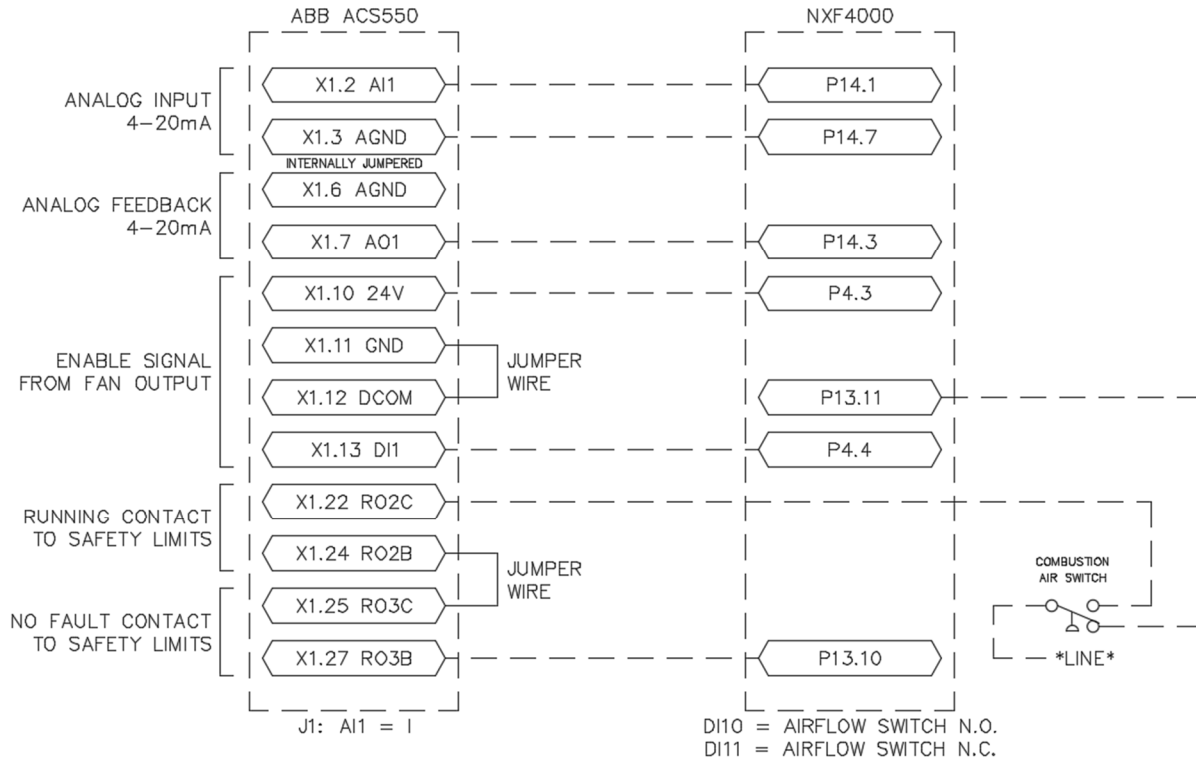




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WIRING NXF4000



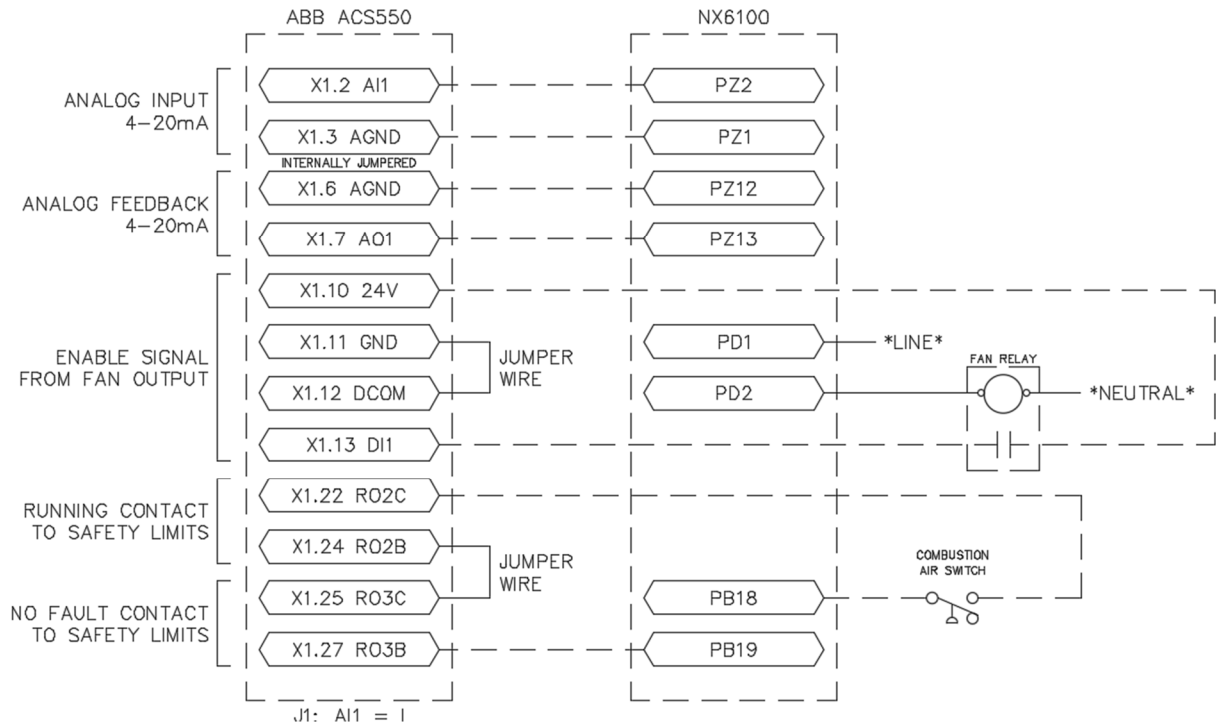


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WIRING NX6100

Always use approved cable (Harting 09456000102 recommended) for all wiring between the NX6100 and the drive.

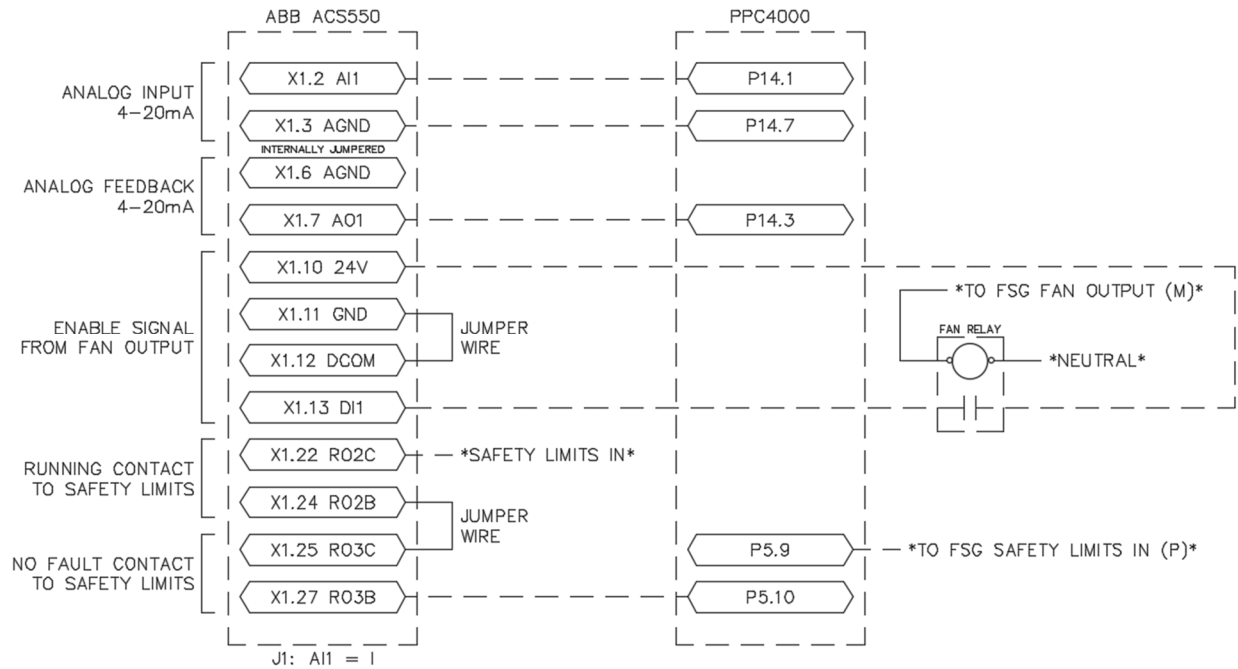




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WIRING PPC4000





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WIRING PPC6000

Always use approved cable (Harting 09456000102 recommended) for all wiring from the PPC6000 to the drive. Use regular wiring for any connections between the flame safeguard and the drive.

