

Technical Note 148

Using the Motor Preheat Function on 580 and 380 Drives

Preheat and Motor Control Mode Adjustment

This document using the Motor Preheat function and the proper way to get the correct preheat current.

Pre-heat input source parameter 21.14 needs to be set to what triggers the pre-heat activation. This is defaulted to off. This can be set to always on after the drive is stopped or via some other trigger (DI, comms, time function, supervision, etc)

14	Pre-heating input source	Off	NoUnit
15	Pre-heating time delay	Other...	
16	Pre-heating current	Off	
18	Auto restart time	On	
19	Scalar start mode	DI1	
21	DC hold frequency	DI2	
22	Start delay	Supervision 1	
23	Smooth start	Supervision 2	
24	Smooth start current	Supervision 3	
25	Smooth start speed	Timed function 1	
26	Torque boost current	Timed function 2	
27	Torque boost time	Timed function 3	
30	Speed compensated stop...	MCW user bit 0	
		MCW user bit 1	
		MCW user bit 2	
		MCW user bit 3	

The next thing that needs to be setup is the pre-heating time delay. This is parameter 21.15. This is the time that the drive waits after it is stopped to activate the motor pre-heat function.

15	Pre-heating time delay	60	s	10	3000	60
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Then the pre-heating current should be entered. This is a percentage of the motor nameplate current.

16	Pre-heating current	0.0	%	0.0	30.0	0.0
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The preheat should be active after the drive stops and the time delay expires. After the drive is power cycled, it is possible that the motor current may not be correct when going into pre-heat. If this occurs, change the scalar start mode to be something other than constant start time. If in vector mode, this issue will not occur.

19	Scalar start mode	Const time	NC
21	DC hold frequency	Normal	
22	Start delay	Const time	
23	Smooth start	Automatic	
24	Smooth start current	Torque boost	
25	Smooth start speed	Automatic+boost	
26	Torque boost current	Flying start	
		Flying start+boost	

For more information see the manuals below.

- ACH580 firmware manual 3AXD50000027600
- ACQ580 Firmware manual 3AXD50000611058
- ACS580 Firmware manual 3AXD0000016097
- ACS380 Firmware manual 3AXD0000029275