

ACS880 Crane Drive Pendant Preset Speed Control

This document provides an overview of how to set up 5 preset speeds from a crane control pendant station.

This tech note will review the digital input truth table and how to set up 5 preset speeds using Drive Composer with Adaptive programming.

Digital Input Selection Truth Table is as follows: 1=On, 0=Off. Reference pg. 93 in Crane Firmware Manual)

Ref. Mode (22.203)	DI3(22.204)	DI4(22.205)	DI5(22.206)	DI6(AP)	Speed Selection
1	0	0	0	0	Step Reference-Speed 1 (22.207)
1	1	0	0	0	Step Reference-Speed 2 (22.208)
1	1	1	0	0	Step Reference-Speed 3 (22.209)
1	1	1	1	0	Step Reference-Speed 4 (22.210)
1	1	1	1	1	Step Reference-Speed 5 (AP)

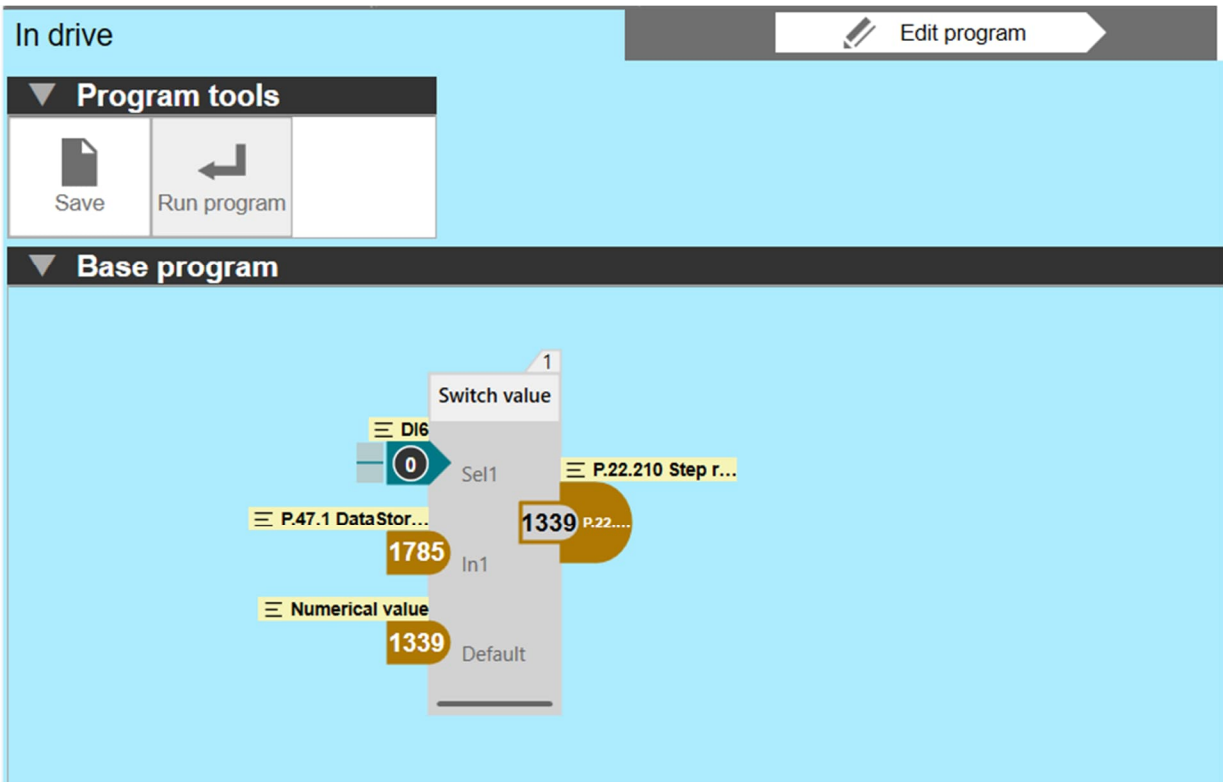
(For Reverse speed selection, DI2 will be on during all of the reverse preset speeds and DI1 will be off, i.e., 20.01, 20.03, and 20.04)

Index	Name	Value	Unit	Min	Max	Default
20. Start/stop/direction						
1	Ext1 commands	In1 Start fwd; In2 Start rev	NoUnit			In1 Start fwd; In2 Start rev
2	Ext1 start trigger type		Level	NoUnit		Level
3	Ext1 in1 source		DI1	NoUnit		DI1

For this example, 22.203 sets the Step Reference Mode and it must always be set to True. Since DI1 is set for start forward and DI2 is set for Start Reverse, we only have use of DI3, 4, and 5 for preset speed selection. Referencing the truth table above, with standard programming, we can only select 4 preset speeds. Preset Speeds 22.207-22.210 are set per the customer's requirements.

22. Speed reference selection						
203	Step reference mode	True	NoUnit			False
204	Step reference select 2	DI3	NoUnit			False
205	Step reference select 3	DI4	NoUnit			False
206	Step reference select 4	DI5	NoUnit			False
207	Step reference 1	179.00	rpm	0.00	30000.00	500.00
208	Step reference 2	446.00	rpm	0.00	30000.00	600.00
209	Step reference 3	893.00	rpm	0.00	30000.00	700.00
210	Step reference 4	1339.00	rpm	0.00	30000.00	1000.00

Preset Speed 5 must be set in an Adaptive programming. Reference the following program:



For this example, a Switch Value block was used to select between a constant speed (In this case default to Preset Speed 4 of 1339 RPM) and Parameter 47.1 which is the high speed select, using DI6. The results are then stored to Parameter 22.210 (Preset Speed 4).

47. Data storage						
1	DataStorage 1 real32	1785.000	NoUnit	-21474...	214748...	0.000

The following Q&A should be filled out before a Technical Note is started. You should fill out A1...A6. Before initiating your peer review, be sure to double check your answers below, and make sure your Technical Note meets your initial target. This section should remain at the end of your Technical Note until this document is ready for publishing. The Q&A will be removed as the final step, before it is published.

This document is a supplement to the following manuals:

ACS880 Crane Control Program (Option +N5050) Firmware Manual - 3AXD50000027678E, REV.E

Application Guide Adaptive Programming – 3AXD50000028574.