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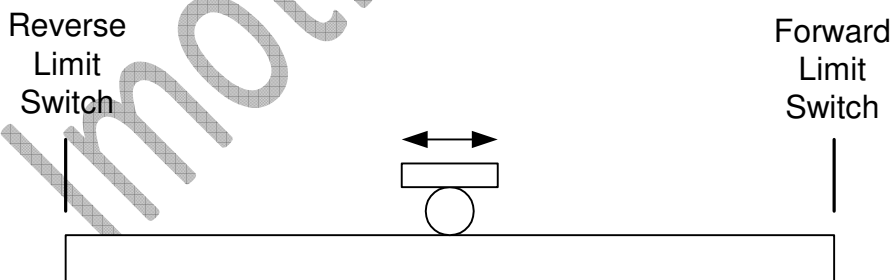
Document number	Imoticon-ID700-028
Revision	0.0
Author	Gareth Lloyd
Product	Imoticon ID700
Title	Imoticon ID700 Limit Switch Operation
Summary	This document gives information on how to set up the Imoticon ID700 for limit switch operation

NOTE: Please read this document in conjunction with the Imoticon ID700 Easy Start Guide and Imoticon ID700 Advanced User Manual.

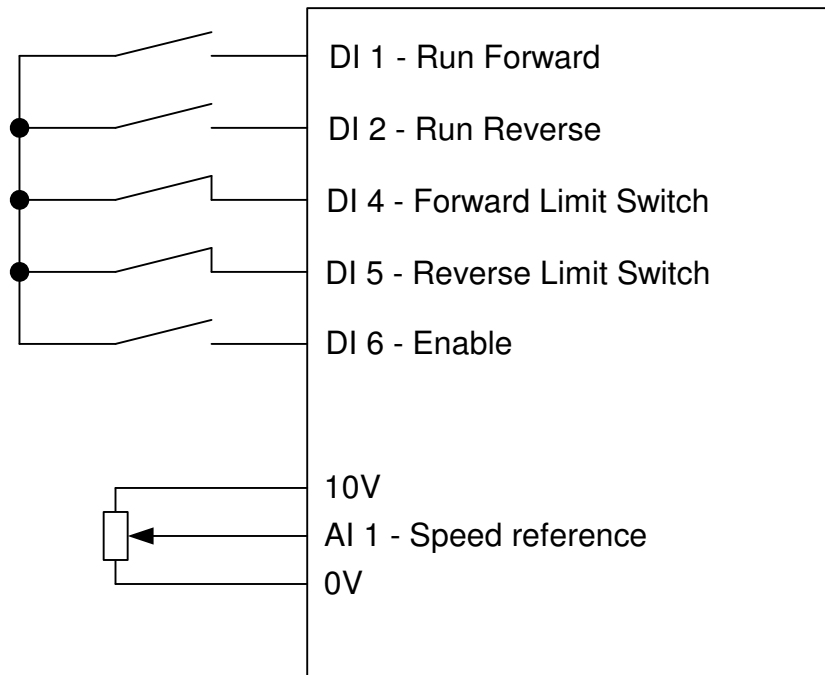
Overview

The Imoticon drive can be set up with a limit switch function. This could be used where a piece of equipment is moving horizontally or vertically and is stopped and started normally by the Inverter but if for some reason, the equipment travels too far and hits a limit switch, is required to stop.

Then the piece of equipment can be driven, in the opposite direction, off the limit switch.



Example connection diagram



DI 1 & DI 2 – Normally open stay-put switches

DI 4 & DI 5 – Normally closed limit switches

Parameter settings

Par	Function	Example Setting	Explanation
P00.01	Motor rated voltage	-	Enter the values from the motor nameplate
P00.02	Motor rated current	-	
P00.03	Motor rated frequency	-	
P00.04	Control mode	1	Terminal control
P00.05	Reference source selector	3	Analogue input 1 speed ref input
P00.08	Acceleration ramp time	10s	System dependant
P00.09	Deceleration ramp time	20s	System dependant
P00.23	Extended parameter access	1	Allows extended parameter access
P09.02	Digital input 1 function control	3	Run forward
P09.03	Digital input 2 function control	4	Run reverse
P09.05	Digital input 4 function control	20	Run forward limit switch
P09.06	Digital input 5 function control	21	Run reverse limit switch
P09.15	Digital input 4 invert	1	Normally closed limit switch
P09.16	Digital input 5 invert	1	Normally closed limit switch
P02.11	Limit switch deceleration rate	0.0	Disable immediately

Operation

Close the enable input.

Close the Normally Open Run Forward Stay-put switch. The drive will enable and run the motor in the forward direction. Speed is controlled by the potentiometer. Acceleration ramp is controlled by parameter P00.08.

If the Run Forward switch is opened during normal running, the drive will ramp to a stop and then disable. Deceleration ramp is controlled by parameter P00.09.

If while running in the forward direction the forward limit switch is hit so the forward limit switch opens, the drive will disable immediately.

Open the Run Forward switch and close the Run Reverse switch.

The drive will enable and run in the reverse direction and move the piece of work off the forward limit switch.

The operation is the same in the reverse direction as in the forward direction.

Limit switch deceleration rate

As default with parameter P02.11 set at 0.0 which means as soon as a limit switch opens, the drive will disable immediately and the motor will coast to a stop.

If a deceleration ramp time is required rather than the drive disabling immediately, this ramp time can be set in P02.11.

Normally Open Limit Switches

The above set-up requires normally closed limit switches. If normally open switches are to be used, set P-09.15 & P09.16 (DI 4 & DI 5 Invert bits) to a 0.

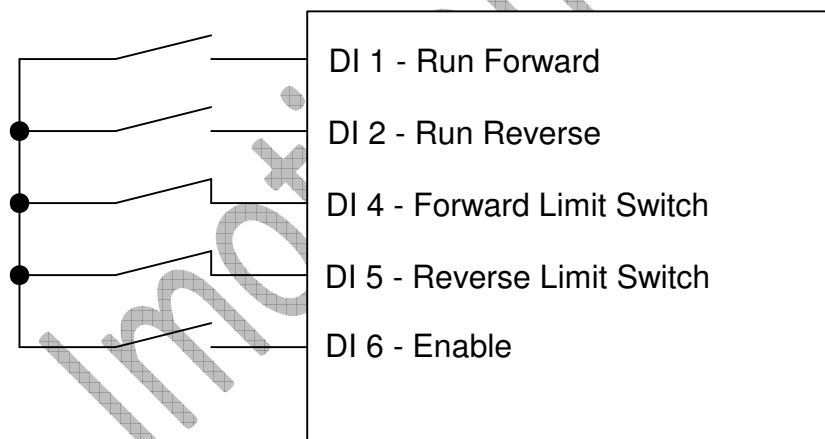
Fixed Speed Operation

If fixed speed operation is required rather than variable speed operation controlled by a speed potentiometer:

Parameter settings

Par	Function	Example Setting	Explanation
P00.01	Motor rated voltage	-	Enter the values from the motor nameplate
P00.02	Motor rated current	-	
P00.03	Motor rated frequency	-	
P00.04	Control mode	1	Terminal control
P00.05	Reference source selector	2	Preset/Fixed speed operation
P00.08	Acceleration ramp time	10s	System dependant
P00.09	Deceleration ramp time	20s	System dependant
P00.16	Preset/Fixed speed 1	50Hz	Preset speed 1
P00.23	Extended parameter access	1	Allows extended parameter access
P09.02	Digital input 1 function control	3	Run forward
P09.03	Digital input 2 function control	4	Run reverse
P09.05	Digital input 4 function control	20	Run forward limit switch
P09.06	Digital input 5 function control	21	Run reverse limit switch
P09.15	Digital input 4 invert	1	Normally closed limit switch
P09.16	Digital input 5 invert	1	Normally closed limit switch
P02.11	Limit switch deceleration rate	0.0	Disable immediately

Connection Diagram



Operation

The operation is exactly the same as above but the drive and motor will run at the fixed/preset speed set in P00.16 rather than variable speed.