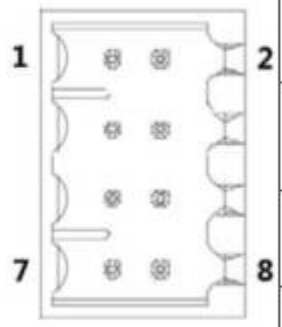
Safe Torque Off (STO) Port - CN6

Port	Pin	Signal	Description	Remarks
	1	24V	24v power supply	Connect to SF1 and SF2 when not in use. Do not use to supply power.
	2	0V	Reference ground	
	3	SF1+	Control signal 1 positive input	When SF1 = OFF or SF2 = OFF,STO is enabled.
	4	SF1-	Control signal 1 negative input	
	5	SF2+	Control signal 2 positive input	
	6	SF2-	Control signal 2 negative input	
	7	EDM+	External monitoring device (EDM) with differential double ended output	When SF1 = OFF and SF2 = OFF,EDM = ON
	8	EDM-		

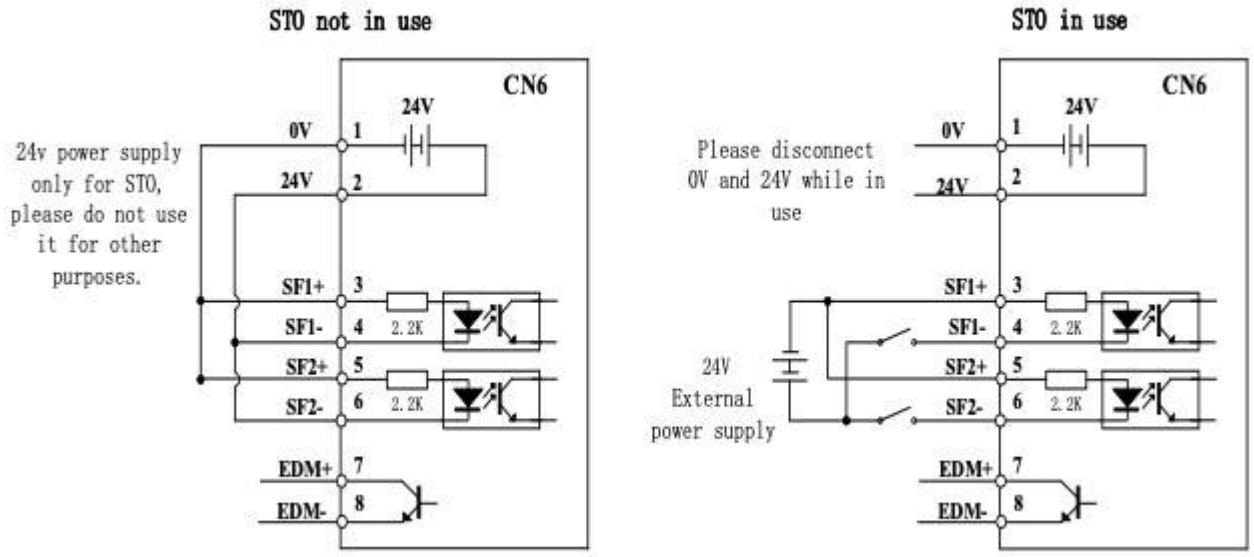
Function: Cut off motor current supply physically (through mechanical means) STO module (CN6 connector) consists of 2 input channels. It cuts off the motor current supply by blocking of PWM control signal from the power module. When the motor current is cut off, the motor will still move under inertia and stops gradually. The STO function is set up ready to be used by factory default. Please remove STO connector if it is not needed.

STO function principle

STO module cuts off the motor current supply and stops motor gradually by blocking of PWM control signal from the power module through 2 isolated circuits. When a STO error occurs, the actual status of STO can be determined by the EDM status feedback.

SF1 Input Status	SF2 Input Status	EDM Output Status	PWM contriol signal	Alarm code
ON	ON	OFF	Normal	-
ON	OFF	OFF	Blocked	Er 1c2
OFF	ON	OFF	Blocked	Er 1c1
OFF	OFF	ON	Blocked	Er 1c0

STO wiring diagram



Please take precautions when enabling STO functions as servo drive will lose control over the motion of the motor. Motor might dropped under gravitational pull (vertically mounted load) or moved when external forces a re applied to it. Alternatively, motor with holding brake can be chosen.

- STO is not meant to cut off the power supply of the servo drivers and motors completely. Please power off and wait for a few minutes before starting maintenance work.
- It is recommende d to use an isolated power supply for STO signal input as any current leakage might cause STO malfunction.