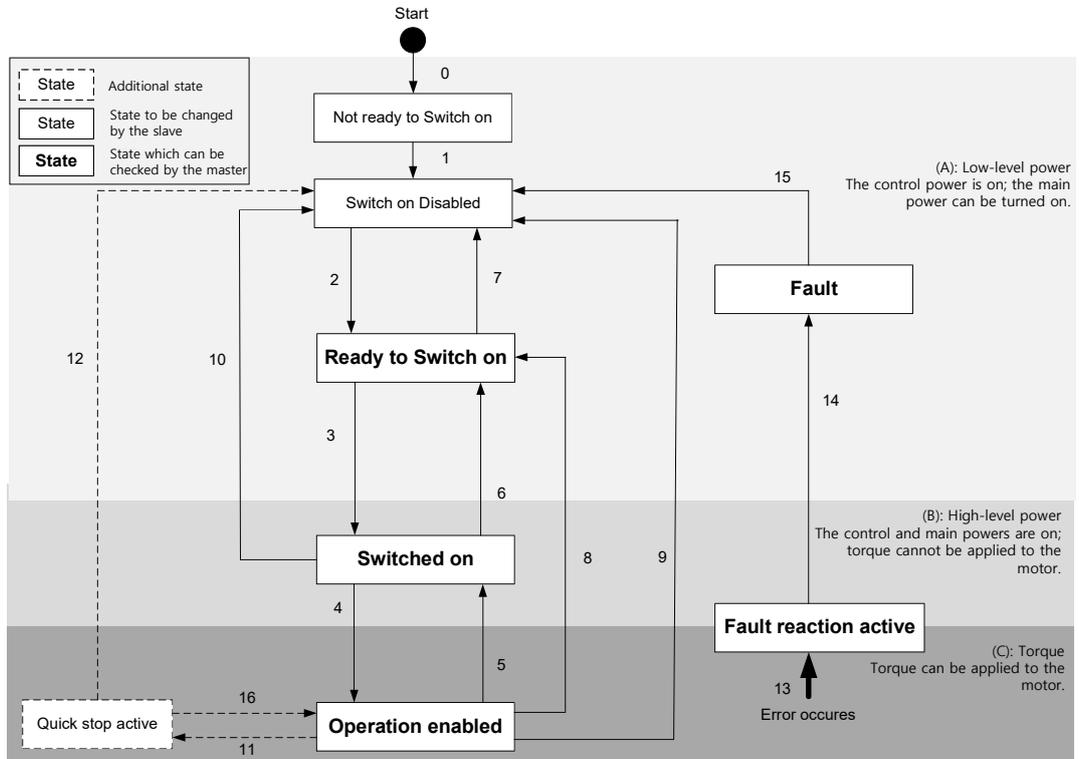


# 4. CiA402 Drive Profile

## 4.1 State Machine



State	Details
Not ready to switch on	Reset is in progress by control power on.
Switch on disabled	Initialization completed, but the main power cannot be turned on.
Ready to switch on	The main power can be turned on and the drive function is disabled.
Switched on	The main power is turned on and the drive function is disabled.
Operation enabled	The drive function is enabled, and the servo is on.
Quick Stop active	Quick stop function is in operation.
Fault reaction active	A servo alarm occurred, causing a relevant sequence to be processed.
Fault	Servo alarm is activated.

## State Machine Control Commands

Switching states of the State Machine can be done through combinations of Controlword (0x6040) bits setting, as described in the table below:

Command	Controlword bits (0x6040)					State Machine switching
	Bit 7	Bit 3	Bit 2	Bit 1	Bit 0	
Shutdown	x	x	1	1	0	2, 6, 8
Switch on	x	0	1	1	1	3
Switch on + Enable operation	x	1	1	1	1	3 + 4
Disable voltage	x	x	x	0	x	7, 9, 10,12
Quick stop	x	x	0	1	x	7, 10,11
Disable operation	x	0	1	1	1	5
Enable operation	x	1	1	1	1	4, 16
Fault reset	0 → 1	x	x	x	x	15

## Statusword Bit Names (0x6041)

You can check the state of the State Machine through bit combinations of the Statusword (0x6041), as described in the table below:

Command	Statusword bits (0x6041)						
	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Not ready to switch on	0	0	x	0	0	0	0
Switch on disabled	1	1	x	0	0	0	0
Ready to switch on	0	1	x	0	0	0	1
Switched on	0	1	x	0	0	1	1
Operation enabled	0	1	x	0	1	1	1
Fault reaction active	0	1	x	1	1	1	1
Fault	0	1	x	1	0	0	0

Bit No.	Data Description	Note
0	Ready to switch on	For more information, refer to 9.3 CiA402 Objects. <b>Note</b>
1	Switched on	
2	Operation enabled	
3	Fault	
4	Voltage enabled	
5	Quick stop	
6	Switched on disabled	
7	Warning	
8	-	
9	Remote	
10	Target reached	
11	Internal limit active	
12	Operation mode specific	
13		
14	ABS position valid	
15	Procedure busy	