Motor driver data sheet

Available states

State	Status word	Possible actions
BOOT	0x0	- No action possible Will switch automatically to PREOP once initialized.
PREOP	0x10	- Switch to SAFE-OP
SAFEOP	0x11	- Read encoder - Write encoder - Switch to OP - Switch to PREOP
OP	0x20	- Read Encoder - Write motor command - Switch to SAFEOP - Switch to PREOP

Note: The state values are defined in motordriver.h as enum MotorState

The motor driver uses 32bit transfers. The transfers are structured as follows

Data range	**Usage**
TRANSFER[0:1]	Write flag. If set to 1, we are writing data.
TRANSFER[1:7]	Register
TRANSFER[8:23]	Value (16 bit, system endianness)
TRANSFER[24:31]	Checksum. XOR of the first 3 bytes of TRANSFER

Register definitions

Address	Register	Description	Access
0x0	UNDEFINED	Invalid register	N/A
0x1	STATUSWORD	Current state of the motor	R
0x2	CONTROLWORD	Requested state of the motor	W
0x3	ENCODER_VALUE	The current value of the encoder. Read to get the value Write to set current position	RW
0x4	MOTOR_VELOCITY_COMMAND	The desired velocity of the motr	RW
0x5	OUTPUT_ENABLE	Enable the power to the motor driver	RW
0x6	FAULT	A fault status is detected Read: Fault Write: Clear fault (no effect if fault condition is still active)	RW
0x7	RESET	Reset command. Will put the motor back in BOOT mode.	W

Note: The state values are defined in motordriver.h as enum MotorDriverRegisters