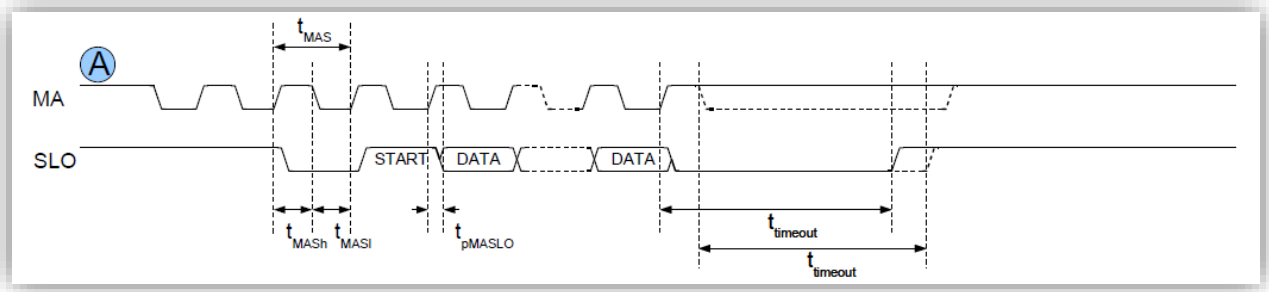


P SERIES MOTOR ENCODER SPECIFICATION

BiSS Protocol Timing



Symbol	Parameter	Conditions	Min.	Max.	Unit
t_{MAS}	Permissible Clock Period	$t_{timeout} = 1.2 \text{ us}$	100	$2 \times t_{timeout}$	ns
t_{MASH}	Clock Signal Hi Level Duration	-	50	$t_{timeout}$	ns
t_{MASI}	Clock Signal Lo Level Duration	$t_{timeout} = 1.2 \text{ us}$	50	-	ns
t_{req}	REQ Lo Level Duration	$t_{timeout} = 1.2 \text{ us}$	50	$t_{timeout}$	ns
CLK(MA)	Permissible Clock Frequency MA	-	-	10	MHz
Symbol	Parameter	Conditions	Min.	Max.	Unit
t_{MAS}	Permissible Clock Period	$t_{timeout} = 1.2 \text{ us}$	100	$2 \times t_{timeout}$	ns

P SERIES MOTOR ENCODER SPECIFICATION

Multi-turn Serial Encoder BiSS-C Output format

CDS 0/1 bits	MT 0/12/16/20/24 bits	ST 9-21 bits	ERR/NERR '1)	WARN/NWARN '1)	LC 0/6 bits	CRCPOS 6 bits
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'1): The ERR and WARN bits are transmitted normally (*high active*) with a deactivated and inverted (*low active*) with an activated CDS bit

CDS	Control Data Slave	1 bit
MT	Multi turn resolution	16 bits
ST	Single turn data length	21 bits (actual data is 18 or 19 bits depending on the motor)
ERR/NERR	ERR bit	1 bit
WARN/NWARN	Warning bit	1 bit
LC	Enable life counter	0 bit
CRCPOS	Start value for the CRC of position data	6 bits

Motor	Multi-turn resolution	Single-Turn Resolution	Single-Turn Data Length	Alignment Bits
PM-FALxxxM8	65,536 (16bits)	262,144 (18bits)	21 bits	3
PM-FBLxxxM	65,536 (16bits)	524,288 (19bits)	21 bits	2
PM-FCLxxxM	65,536 (16bits)	524,288 (19bits)	21 bits	2