MPS Logic:
2021-02-10-a

Contents

1 Always Evaluated **3**
1.1 Bypass Recover . . . 3
1.2 Gun RF Peak Power 10-2 . . . 3
1.3 Gun Waveguide Vacuum Summary . . . 3
1.4 IOC-IN10-MP01 MPS Support IOC Heartbeat . . . 3
1.5 MPS Beam Permit: Gun RF . . . 4
1.6 MPS Beam Permit: Mechanical Shutter . . . 4
1.7 MPS Mechanical Shutter Inconsistent State . . . 4
1.8 MPS Mechanical Shutter Position . . . 4
1.9 PLC-IN10-MP01 MPS Support PLC Heartbeat . . . 5
1.10 Rate Request: Gun RF 1 Hz . . . 5
1.11 Rate Request: Gun RF 10 Hz . . . 5
1.12 VVPG IN10 155 Position . . . 5
1.13 VVPG IN10 215 Position . . . 6
1.14 YAG IN10 241 Position . . . 6

1 Always Evaluated

1.1 Bypass Recover

Name	*A*	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Not recovered	F	0 Hz	0 Hz	–	–	–	–	–
Ok	T	30 Hz	30 Hz	–	–	–	–	–

Where
A = `LP_BYPASS_RECOVER`

1.2 Gun RF Peak Power 10-2

Name	*A*	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Fault	F	0 Hz	0 Hz	–	–	–	–	–
Ok	T	30 Hz	30 Hz	–	–	–	–	–

Where
A = `KLYS_LI10_21_PEAKPOWER_STATE`

1.3 Gun Waveguide Vacuum Summary

Name	*A*	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Not Ok	F	0 Hz	0 Hz	–	–	–	–	–
Ok	T	30 Hz	30 Hz	–	–	–	–	–

Where
A = `MKSU_LI10_61_WGVACSUM_STATE`

1.4 IOC-IN10-MP01 MPS Support IOC Heartbeat

Name	*A*	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Not Ok	F	0 Hz	0 Hz	–	–	–	–	–
Ok	T	30 Hz	30 Hz	–	–	–	–	–

Where
A = IOC_IN10_MP01_HEARTBEATSUM_STATE

1.5 MPS Beam Permit: Gun RF

Name	A	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Not Permitted	F	0 Hz	–	–	–	–	–	–
Permitted	T	30 Hz	–	–	–	–	–	–

Where
A = LP_ALLOWS_BEAM_POCKELS_CELL

1.6 MPS Beam Permit: Mechanical Shutter

Name	A	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Not Permitted	F	–	0 Hz	–	–	–	–	–
Permitted	T	–	30 Hz	–	–	–	–	–

Where
A = LP_ALLOWS_BEAM_MECH_SHUT

1.7 MPS Mechanical Shutter Inconsistent State

Name	A	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Readback Does Not Match	F	0 Hz	0 Hz	–	–	–	–	–
Ok	T	30 Hz	30 Hz	–	–	–	–	–

Where
A = SHUT_LT10_950_FAULT_STATE

1.8 MPS Mechanical Shutter Position

Name	B	A	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Moving	F	F	0 Hz	–	–	–	–	–	–
Out	F	T	30 Hz	–	–	–	–	–	–
In	T	F	30 Hz	–	–	–	–	–	–
Broken	T	T	0 Hz	–	–	–	–	–	–

Where
A = SHUT_LT10_950_OUT_POSITION,
B = SHUT_LT10_950_IN_POSITION

1.9 PLC-IN10-MP01 MPS Support PLC Heartbeat

Name	A	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Not Ok	F	0 Hz	0 Hz	–	–	–	–	–
Ok	T	30 Hz	30 Hz	–	–	–	–	–

Where
A = PLC_IN10_MP01_HEARTBEATSUM_STATE

1.10 Rate Request: Gun RF 1 Hz

Name	A	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Not Requested	F	30 Hz	–	–	–	–	–	–
Requested	T	1 Hz	–	–	–	–	–	–

Where
A = LP_MAX_RATE_PC_1_HZ

1.11 Rate Request: Gun RF 10 Hz

Name	A	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Not Requested	F	30 Hz	–	–	–	–	–	–
Requested	T	10 Hz	–	–	–	–	–	–

Where
A = LP_MAX_RATE_PC_10_HZ

1.12 VVPG IN10 155 Position

Name	A	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Not Out	F	0 Hz	0 Hz	–	–	–	–	–
Out	T	30 Hz	30 Hz	–	–	–	–	–

Where
A = VVPG_IN10_155_POSITION_STATE

1.13 VVPG IN10 215 Position

Name	A	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Not Out	F	0 Hz	0 Hz	–	–	–	–	–
Out	T	30 Hz	30 Hz	–	–	–	–	–

Where
A = VVPG_IN10_215_POSITION_STATE

1.14 YAG IN10 241 Position

Name	B	A	GUNL	MS	BYKIK	LHS	GUNH	GUNS	BYKIKS
Moving	F	F	0 Hz	0 Hz	–	–	–	–	–
Out	F	T	30 Hz	30 Hz	–	–	–	–	–
In	T	F	10 Hz	10 Hz	–	–	–	–	–
Broken	T	T	0 Hz	0 Hz	–	–	–	–	–

Where
A = YAGS_IN10_241_OUT_LIMSW_POSITION,
B = YAGS_IN10_241_IN_LIMSW_POSITION