

SMEI Instrument Commanding Specification

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07	SM_GOTO_OBS	00		Hex	1480	1480	1480	SMEI Sub-Address 4
07	SM_GOTO_OBS	01	0-7	Hex			7	Command Identifier
07	SM_GOTO_OBS	01	8-15	Hex	0	FF		Sequence Identifier
07	SM_GOTO_OBS	02		Hex	0	FFFF		CRC
07	SM_GOTO_OBS	03-32		Hex	0	0	0	Spare (0)
08	SM_ENBL_SCNF	00	0-15	Hex	1480	1480	1480	SMEI Sub-Address 4
08	SM_ENBL_SCNF	01	0-7	Hex			8	Command Identifier
08	SM_ENBL_SCNF	01	8-15	Hex	0	FF		Sequence Identifier
08	SM_ENBL_SCNF	02	0-15	Hex	0	FFFF		CRC
08	SM_ENBL_SCNF	03-32	0-15	Hex	0	0	0	Spare (0)
09	SM_SYS_CONF	00		Hex			1480	SMEI Sub-Address 4
09	SM_SYS_CONF	01	0-7	Hex			9	Command Identifier
09	SM_SYS_CONF	01	8-15	Hex	0	FF		Sequence Identifier
09	SM_SYS_CONF	02		Hex	0	FFFF		CRC
09	SM_SYS_CONF	03		Hex	0	FFFF	0	Global Configuration AND mask
09	SM_SYS_CONF	04		Hex	0	FFFF	0	Global Configuration XOR mask
09	SM_SYS_CONF	05-32		Hex	0	0	0	Spare (0)
40	SM_DHU_COLD	00		Hex	1480	1480	1480	SMEI Sub-Address 4
40	SM_DHU_COLD	01	0-7	Hex			40	Command Identifier
40	SM_DHU_COLD	01	8-15	Hex	0	FF		Sequence Identifier
40	SM_DHU_COLD	02		Hex	0	FFFF		CRC
40	SM_DHU_COLD	03-32		Hex	0	0	0	Spare (0)
42	SM_PATCH_BIN	00		Hex	1480	1480	1480	SMEI Sub-Address 4
42	SM_PATCH_BIN	01	0-7	Hex			42	Command Identifier
42	SM_PATCH_BIN	01	8-15	Hex	0	FF		Sequence Identifier
42	SM_PATCH_BIN	02		Hex	0	FFFF		CRC
42	SM_PATCH_BIN	03		Hex	0	13E3	0	Patch Buffer Offset
42	SM_PATCH_BIN	04-32		Hex	0	FFFF	0	Binary Patch Data (padded with 0)
43	SM_PATCH_UPL	00		Hex	1480	1480	1480	SMEI Sub-Address 4
43	SM_PATCH_UPL	01	0-7	Hex			43	Command Identifier

51	SM_1_PWR_ON	00		Hex	1480	1480	1480		SMEI Sub-Address 4
51	SM_1_PWR_ON	01	0-7	Hex			51		Command Identifier
51	SM_1_PWR_ON	01	8-15	Hex	0	FF			Sequence Identifier
51	SM_1_PWR_ON	02		Hex	0	FFFF			CRC
51	SM_1_PWR_ON	03-32		Hex	0	0	0		Spare (0)
52	SM_1_ICE_OFF	00		Hex	1480	1480	1480		SMEI Sub-Address 4
52	SM_1_ICE_OFF	01	0-7	Hex			52		Command Identifier
52	SM_1_ICE_OFF	01	8-15	Hex	0	FF			Sequence Identifier
52	SM_1_ICE_OFF	02		Hex	0	FFFF			CRC
52	SM_1_ICE_OFF	03-32		Hex	0	0	0		Spare (0)
53	SM_1_ICE_ON	00		Hex	1480	1480	1480		SMEI Sub-Address 4
53	SM_1_ICE_ON	01	0-7	Hex			53		Command Identifier
53	SM_1_ICE_ON	01	8-15	Hex	0	FF			Sequence Identifier
53	SM_1_ICE_ON	02		Hex	0	FFFF			CRC
53	SM_1_ICE_ON	03	0-7	Hex	0	FF			Target Temperature
53	SM_1_ICE_ON	03	8-15	Hex	0	10			Duty Cycle (0-100%)
53	SM_1_ICE_ON	04		Hex	0	FFFF		Minutes	Duration
53	SM_1_ICE_ON	05-32		Hex	0	0	0		Spare (0)
54	SM_1_HOP_EN	00		Hex	1480	1480	1480		SMEI Sub-Address 4
54	SM_1_HOP_EN	01	0-7	Hex			54		Command Identifier
54	SM_1_HOP_EN	01	8-15	Hex	0	FF			Sequence Identifier
54	SM_1_HOP_EN	02		Hex	0	FFFF			CRC
54	SM_1_HOP_EN	03-32		Hex	0	0	0		Spare (0)
55	SM_1_HOP_TEST	00		Hex	1480	1480	1480		SMEI Sub-Address 4
55	SM_1_HOP_TEST	01	0-7	Hex			55		Command Identifier
55	SM_1_HOP_TEST	01	8-15	Hex	0	FF			Sequence Identifier
55	SM_1_HOP_TEST	02		Hex	0	FFFF			CRC
55	SM_1_HOP_TEST	03-32		Hex	0	0	0		Spare (0)

5B	SM_1_DYN_CONF	00		Hex	1480	1480	1480		SMEI Sub-Address 4
5B	SM_1_DYN_CONF	01	0-7	Hex			5B		Command Identifier
5B	SM_1_DYN_CONF	01	8-15	Hex	0	FF			Sequence Identifier
5B	SM_1_DYN_CONF	02		Hex	0	FFFF			CRC
5B	SM_1_DYN_CONF	03		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	04		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	05		Hex	0	FFFF			See Obs Mode H/K Word 4
5B	SM_1_DYN_CONF	06		Hex	0	FFFF			See Obs Mode H/K Word 5
5B	SM_1_DYN_CONF	07		Hex	0	FFFF			See Obs Mode H/K Word 6
5B	SM_1_DYN_CONF	08		Hex	0	FFFF			See Obs Mode H/K Word 7
5B	SM_1_DYN_CONF	09		Hex	0	FFFF			See Obs Mode H/K Word 8
5B	SM_1_DYN_CONF	10		Hex	0	FFFF			See Obs Mode H/K Word 9
5B	SM_1_DYN_CONF	11		Hex	0	FFFF			See Obs Mode H/K Word 10
5B	SM_1_DYN_CONF	12		Hex	0	FFFF			See Obs Mode H/K Word 11
5B	SM_1_DYN_CONF	13		Hex	0	FFFF			See Obs Mode H/K Word 12
5B	SM_1_DYN_CONF	14		Hex	0	FFFF			See Obs Mode H/K Word 13
5B	SM_1_DYN_CONF	15		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	16		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	17		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	18		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	19		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	20		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	21		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	22		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	23		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	24		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	25		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	26		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	27		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	28		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	29		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	30		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	31		Hex	0	0			Spare (0)
5B	SM_1_DYN_CONF	32		Hex	0	0			Spare (0)

5D	SM_1_MOTOR	00		Hex	1480	1480	1480		SMEI Sub-Address 4
5D	SM_1_MOTOR	01	0-7	Hex			5D		Command Identifier
5D	SM_1_MOTOR	01	8-15	Hex	0	FF			Sequence Identifier
5D	SM_1_MOTOR	02		Hex	0	FFFF			CRC
5D	SM_1_MOTOR	03		Hex	0	3			Coil
5D	SM_1_MOTOR	04		Hex	0	000F	4	Seconds	Duration
5D	SM_1_MOTOR	05		Hex	1	F	4	Seconds	Settle Time
5D	SM_1_MOTOR	06-32		Hex	0	0	0		Spare (0)
61	SM_2_PWR_ON	00		Hex	1480	1480	1480		SMEI Sub-Address 4
61	SM_2_PWR_ON	01	0-7	Hex			61		Command Identifier
61	SM_2_PWR_ON	01	8-15	Hex	0	FF			Sequence Identifier
61	SM_2_PWR_ON	02		Hex	0	FFFF			CRC
61	SM_2_PWR_ON	03-32		Hex	0	0	0		Spare (0)
62	SM_2_ICE_OFF	00		Hex	1480	1480	1480		SMEI Sub-Address 4
62	SM_2_ICE_OFF	01	0-7	Hex			62		Command Identifier
62	SM_2_ICE_OFF	01	8-15	Hex	0	FF			Sequence Identifier
62	SM_2_ICE_OFF	02		Hex	0	FFFF			CRC
62	SM_2_ICE_OFF	03-32		Hex	0	0	0		Spare (0)
63	SM_2_ICE_ON	00		Hex	1480	1480	1480		SMEI Sub-Address 4
63	SM_2_ICE_ON	01	0-7	Hex			63		Command Identifier
63	SM_2_ICE_ON	01	8-15	Hex	0	FF			Sequence Identifier
63	SM_2_ICE_ON	02		Hex	0	FFFF			CRC
63	SM_2_ICE_ON	03	0-7	Hex	0	FF			Target Temperature
63	SM_2_ICE_ON	03	8-15	Hex	0	10			Duty Cycle (0-100%)
63	SM_2_ICE_ON	04		Hex	0	FFFF		Minutes	Duration
63	SM_2_ICE_ON	05-32		Hex	0	0	0		Spare (0)
64	SM_2_HOP_EN	00		Hex	1480	1480	1480		SMEI Sub-Address 4
64	SM_2_HOP_EN	01	0-7	Hex			64		Command Identifier
64	SM_2_HOP_EN	01	8-15	Hex	0	FF			Sequence Identifier
64	SM_2_HOP_EN	02		Hex	0	FFFF			CRC
64	SM_2_HOP_EN	03-32		Hex	0	0	0		Spare (0)

65	SM_2_HOP_TEST	00		Hex	1480	1480	1480		SMEI Sub-Address 4
65	SM_2_HOP_TEST	01	0-7	Hex			65		Command Identifier
65	SM_2_HOP_TEST	01	8-15	Hex	0	FF			Sequence Identifier
65	SM_2_HOP_TEST	02		Hex	0	FFFF			CRC
65	SM_2_HOP_TEST	03-32		Hex	0	0	0		Spare (0)
67	SM_2_HOP_ACT	00		Hex	1480	1480	1480		SMEI Sub-Address 4
67	SM_2_HOP_ACT	01	0-7	Hex			67		Command Identifier
67	SM_2_HOP_ACT	01	8-15	Hex	0	FF			Sequence Identifier
67	SM_2_HOP_ACT	02		Hex	0	FFFF			CRC
67	SM_2_HOP_ACT	03		Hex	0	FFFF	0	Seconds	Duration
67	SM_2_HOP_ACT	04-32		Hex	0	0	0		Spare (0)
69	SM_2_CONF	00		Hex	1480	1480	1480		SMEI Sub-Address 4
69	SM_2_CONF	01	0-7	Hex			69		Command Identifier
69	SM_2_CONF	01	8-15	Hex	0	FF			Sequence Identifier
69	SM_2_CONF	02		Hex	0	FFFF			CRC
69	SM_2_CONF	03		Hex	0	F	0		Configuration Number
69	SM_2_CONF	04-32		Hex	0	0	0		Spare (0)

6B	SM_2_DYN_CONF	00		Hex	1480	1480	1480		SMEI Sub-Address 4
6B	SM_2_DYN_CONF	01	0-7	Hex			6B		Command Identifier
6B	SM_2_DYN_CONF	01	8-15	Hex	0	FF			Sequence Identifier
6B	SM_2_DYN_CONF	02		Hex	0	FFFF			CRC
6B	SM_2_DYN_CONF	03		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	04		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	05		Hex	0	FFFF			See Obs Mode H/K Word 4
6B	SM_2_DYN_CONF	06		Hex	0	FFFF			See Obs Mode H/K Word 5
6B	SM_2_DYN_CONF	07		Hex	0	FFFF			See Obs Mode H/K Word 6
6B	SM_2_DYN_CONF	08		Hex	0	FFFF			See Obs Mode H/K Word 7
6B	SM_2_DYN_CONF	09		Hex	0	FFFF			See Obs Mode H/K Word 8
6B	SM_2_DYN_CONF	10		Hex	0	FFFF			See Obs Mode H/K Word 9
6B	SM_2_DYN_CONF	11		Hex	0	FFFF			See Obs Mode H/K Word 10
6B	SM_2_DYN_CONF	12		Hex	0	FFFF			See Obs Mode H/K Word 11
6B	SM_2_DYN_CONF	13		Hex	0	FFFF			See Obs Mode H/K Word 12
6B	SM_2_DYN_CONF	14		Hex	0	FFFF			See Obs Mode H/K Word 13
6B	SM_2_DYN_CONF	15		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	16		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	17		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	18		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	19		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	20		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	21		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	22		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	23		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	24		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	25		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	26		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	27		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	28		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	29		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	30		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	31		Hex	0	0			Spare (0)
6B	SM_2_DYN_CONF	32		Hex	0	0			Spare (0)

6D	SM_2_MOTOR	00		Hex	1480	1480	1480		SMEI Sub-Address 4
6D	SM_2_MOTOR	01	0-7	Hex			6D		Command Identifier
6D	SM_2_MOTOR	01	8-15	Hex	0	FF			Sequence Identifier
6D	SM_2_MOTOR	02		Hex	0	FFFF			CRC
6D	SM_2_MOTOR	03		Hex	0	3			Coil
6D	SM_2_MOTOR	04		Hex	0	F	4	Seconds	Duration
6D	SM_2_MOTOR	05		Hex	1	F	4	Seconds	Settle Time
6D	SM_2_MOTOR	06-32		Hex	0	0	0		Spare (0)
71	SM_3_PWR_ON	00		Hex	1480	1480	1480		SMEI Sub-Address 4
71	SM_3_PWR_ON	01	0-7	Hex			71		Command Identifier
71	SM_3_PWR_ON	01	8-15	Hex	0	FF			Sequence Identifier
71	SM_3_PWR_ON	02		Hex	0	FFFF			CRC
71	SM_3_PWR_ON	03-32		Hex	0	0	0		Spare (0)
72	SM_3_ICE_OFF	00		Hex	1480	1480	1480		SMEI Sub-Address 4
72	SM_3_ICE_OFF	01	0-7	Hex			72		Command Identifier
72	SM_3_ICE_OFF	01	8-15	Hex	0	FF			Sequence Identifier
72	SM_3_ICE_OFF	02		Hex	0	FFFF			CRC
72	SM_3_ICE_OFF	03-32		Hex	0	0	0		Spare (0)
73	SM_3_ICE_ON	00		Hex	1480	1480	1480		SMEI Sub-Address 4
73	SM_3_ICE_ON	01	0-7	Hex			73		Command Identifier
73	SM_3_ICE_ON	01	8-15	Hex	0	FF			Sequence Identifier
73	SM_3_ICE_ON	02		Hex	0	FFFF			CRC
73	SM_3_ICE_ON	03	0-7	Hex	0	FF			Target Temperature
73	SM_3_ICE_ON	03	8-15	Hex	0	10			Duty Cycle (0-100%)
73	SM_3_ICE_ON	04		Hex	0	FFFF		Minutes	Duration
73	SM_3_ICE_ON	05-32		Hex	0	0	0		Spare (0)
74	SM_3_HOP_EN	00		Hex	1480	1480	1480		SMEI Sub-Address 4
74	SM_3_HOP_EN	01	0-7	Hex			74		Command Identifier
74	SM_3_HOP_EN	01	8-15	Hex	0	FF			Sequence Identifier
74	SM_3_HOP_EN	02		Hex	0	FFFF			CRC
74	SM_3_HOP_EN	03-32		Hex	0	0	0		Spare (0)

7B	SM_3_DYN_CONF	00		Hex	1480	1480	1480		SMEI Sub-Address 4
7B	SM_3_DYN_CONF	01	0-7	Hex			7B		Command Identifier
7B	SM_3_DYN_CONF	01	8-15	Hex	0	FF			Sequence Identifier
7B	SM_3_DYN_CONF	02		Hex	0	FFFF			CRC
7B	SM_3_DYN_CONF	03		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	04		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	05		Hex	0	FFFF			See Obs Mode H/K Word 4
7B	SM_3_DYN_CONF	06		Hex	0	FFFF			See Obs Mode H/K Word 5
7B	SM_3_DYN_CONF	07		Hex	0	FFFF			See Obs Mode H/K Word 6
7B	SM_3_DYN_CONF	08		Hex	0	FFFF			See Obs Mode H/K Word 7
7B	SM_3_DYN_CONF	09		Hex	0	FFFF			See Obs Mode H/K Word 8
7B	SM_3_DYN_CONF	10		Hex	0	FFFF			See Obs Mode H/K Word 9
7B	SM_3_DYN_CONF	11		Hex	0	FFFF			See Obs Mode H/K Word 10
7B	SM_3_DYN_CONF	12		Hex	0	FFFF			See Obs Mode H/K Word 11
7B	SM_3_DYN_CONF	13		Hex	0	FFFF			See Obs Mode H/K Word 12
7B	SM_3_DYN_CONF	14		Hex	0	FFFF			See Obs Mode H/K Word 13
7B	SM_3_DYN_CONF	15		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	16		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	17		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	18		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	19		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	20		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	21		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	22		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	23		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	24		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	25		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	26		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	27		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	28		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	29		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	30		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	31		Hex	0	0			Spare (0)
7B	SM_3_DYN_CONF	32		Hex	0	0			Spare (0)

CMD ID	CMD MNEMONIC	Parameter#	Bits	Data Type	Min	Max	Default	Units	Description
	Keep to 10 characters								
	Fill in characters 0-9 only								
	SM_0123456789								
0E	SM_EMERG_SAFE	00	0-15	Hex	14A0	14A0	14A0		SMEI Sub-Address 5
0E	SM_EMERG_SAFE	01	0-7	Hex	0E	0E	0E		Command Identifier
0E	SM_EMERG_SAFE	01	8-15	Hex	FF	FF	FF		Sequence Identifier
0E	SM_EMERG_SAFE	02	0-15	Hex	0	FFFF	3859		CRC
0E	SM_EMERG_SAFE	03	0-15	Hex	C369	C369	C369		Verification Code
0E	SM_EMERG_SAFE	04-32	0-15	Hex	0	0	0		Spare (0)

CMD ID	CMD MNEMONIC	Parameter#	Bits	Data Type	Min	Max	Default	Units	Description
	Keep to 10 characters								
	Fill in characters 0-9 only								
	SM_0123456789								
*	SM_SC_ATT	00	0-15	Hex	14C0	14C0	14C0		SMEI Sub-Address 6
	SM_SC_ATT	01	0-15	Hex					Packet Identifiers
	SM_SC_ATT	02	0-15	Hex	0	FFFF			CRC
	SM_SC_ATT	03	0-15	Hex	0	FFFF		Seconds	UTC Seconds (MSW)
	SM_SC_ATT	04	0-15	Hex	0	FFFF		Seconds	UTC Seconds (LSW)
	SM_SC_ATT	05	0-15	Hex	0	FFFF			UTC Subseconds
	SM_SC_ATT	06-32	0-15	Hex	0	FFFF			Attitude Data (ICD Figure C6.3)

* Not really a SMEI command. Here for completeness