

BUFR TABLES RELATIVE TO SECTION 3

BUFR Table B – *Classification of elements*

F	X	Class	Comments	Status
NONE				

(26 February 2013)

Class 01 – Identification

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		CREX			Status
				REFERENCE VALUE	DATA WIDTH (Bits)	UNIT	SCALE	DATA WIDTH (Characters)	
0 01 097	Star catalog number	Numeric	0	0	13	Numeric	0	4	Validation
0 01 098	Type of product	Code table	0	0	12	Code table	0	4	Validation
0 01 113	Template version number defined by originating centre	Numeric	1	0	9	Numeric	1	3	Validation

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Class 02 – Instrumentation

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR REFERENCE VALUE	DATA WIDTH (Bits)	UNIT	SCALE	CREX DATA WIDTH (Characters)	Status
0 02 006	Data obtained by	Code table	0	0	3	Code table	0	1	Validation
0 02 007	Type of sensor for water level measuring instrument	Code table	0	0	4	Code table	0	2	Validation
0 02 098	Type of wave sensor	Code table	0	0	4	Code table	0	2	Validation
0 02 147	Method of transmission to collection centre	Code table	0	0	7	Code table	0	2	Validation

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Class 04 – Location (time)

TABLE REFERENCE F X Y			ELEMENT NAME	UNIT	SCALE	BUFR		CREX		Status
						REFERENCE VALUE	DATA WIDTH (Bits)	UNIT	SCALE	
0 04 008	Seconds within a minute (high accuracy)			s	7	0	30			Validation

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Class 07 – Location (vertical)

TABLE REFERENCE F X Y			ELEMENT NAME		UNIT	SCALE	BUFR REFERENCE VALUE	DATA WIDTH (Bits)	UNIT	CREX SCALE	DATA WIDTH (Characters)	Status
0	07	011	Pressure (high precision)		Pa	0	0	30	Pa	0	10	Validation

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Class 08 – Significance qualifiers

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		DATA WIDTH (Bits)	UNIT	CREX		DATA WIDTH (Characters)	Status
				REFERENCE	VALUE			SCALE			
0 08 015	Significance qualifier for sensor	Code table	0	0		3	Code table	0		1	Validation
0 08 027	Matrix geometry	Code table	0	0		6	Code table	0		2	Validation
0 08 032	Status of operation	Code table	0	0		4	Code table	0		2	Validation
0 08 044	CAS registry number *	CCITT IA5	0	0		88	Character	0		11	Validation
0 08 045	Particulate matter characterization	Code table	0	0		8	Code table	0		3	Validation

* 0 08 044 has already been in use.

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Class 12 – Temperature

TABLE REFERENCE F X Y			ELEMENT NAME		UNIT	SCALE	BUFR REFERENCE VALUE	DATA WIDTH (Bits)	UNIT	CREX SCALE	DATA WIDTH (Characters)	Status
0	12	060	AWS enclosure internal temperature		K	1	0	12	°C	1	3	Validation

Class 13 – Hydrographic and hydrological elements

TABLE REFERENCE F X Y			ELEMENT NAME	UNIT	SCALE	BUFR REFERENCE VALUE	DATA WIDTH (Bits)	UNIT	SCALE	DATA WIDTH (Characters)	Status
0 13 119	Snowfall amount			m	3	−10	14	m	3	5	Validation
0 13 120	Snow amount, water equivalent			kg m−2	1	−10	14	kg m−2	1	5	Validation

Class 14 – Radiation and radiance

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR	DATA WIDTH (Bits)	UNIT	CREX	DATA WIDTH (Characters)	Status
				REFERENCE VALUE			SCALE		
0 14 071	Global UV spectral irradiance (see Note x)	W m−2 nm−1	6	−1048576	21	W m−2 nm−1	6	7	Validation
0 14 073	Global erythmal irradiation (see Note x+1)	J m−2	−3	−32	6	J m−2	−3	2	Validation

- Notes:
- (x) Global UV spectral irradiance (0 14 071) is UV flux density for individual wavelengths specified. 0 14 071 shall be preceded by 0 02 071 (Spectrographic wavelength).
 - (8) *Global UV irradiation (0 14 072) is UV energy integrated over period specified for spectral band specified. 0 14 072 shall be preceded by a time period descriptor and by 0 02 071 (Spectrographic wavelength) and 0 02 072 (Spectrographic width). E.g. if 0 14 072 is used for Global UV-B irradiation, 0 02 071 and 0 02 072 shall specify spectral band 280 to 315 nm.*
 - (x+1) Global erythral irradiation (0 14 073) is UV energy weighted by the CIE Action Spectrum integrated over period specified. 0 14 073 shall be preceded by a time period descriptor, 0 02 071 (Spectrographic wavelength) and 0 02 072 (Spectrographic width).

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Class 15 – Physical/chemical constituents

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR	DATA WIDTH (Bits)	UNIT	SCALE	DATA WIDTH (Characters)	Status
				REFERENCE VALUE					
0 15 007	Molecular mass	u	2	0	15	u	2	5	Validation
0 15 009	Integrated number density	m ⁻²	0	0	10	m ⁻²	0	4	Validation
0 15 010	Partial pressure	Pa	0	0	10	Pa	0	4	Validation
0 15 022	Integrated number density	m ⁻³	0	0	10	m ⁻³	0	4	Validation
0 15 023	Mass density	kg m ⁻³	0	0	10	kg m ⁻³	0	4	Validation
0 15 028	Photo dissociation rate	s ⁻¹	0	0	10	s ⁻¹	0	4	Validation
0 15 040	Particulate matter diameter	m	8	0	9	m	8	3	Validation
0 15 043	Number of averaging kernel layers	Numeric	0	0	10	Numeric	0	4	Validation
0 15 044	Averaging kernel value	Numeric	6	-5000000	24	Numeric	6	8	Validation
0 15 045	Sulfur dioxide	DU	0	0	10	DU	0	4	Validation
0 15 046	Volcano contamination index	Numeric	0	0	10	Numeric	0	4	Validation
0 15 049	Aerosol Angstrom wavelength exponent	Numeric	4	0	16	Numeric	0	5	Validation

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Class 20 – Observed phenomena

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		DATA WIDTH (Bits)	UNIT	CREX		Status
				REFERENCE VALUE				SCALE	DATA WIDTH (Characters)	
0 20 054	True direction from which a phenomenon or clouds are moving or in which they are observed (see Note x)	degree true	0	0		9	degree true	0	3	to Operational
0 20 079	Snow/Ice crystals indicator	Flag table	0	0		2	Flag table	0	1	Validation
0 20 080	Cloud amount percentage interval	Code table	0	0		3	Code table	0	1	Validation
0 20 137	Evolution of clouds	Code table	0	0		4	Code table	0	2	Validation

Notes:

- (x) 0 20 054 (True direction of a phenomenon or clouds) shall be used to indicate true direction from which a phenomenon or clouds are moving or in which they are observed. 0 20 054 value 0 shall indicate "stationary or no clouds" or "observed at the station" whereas value 500 shall indicate "observed in all directions" and value 501 shall indicate "unknown or clouds invisible".

Class 21 – Radar data

TABLE REFERENCE F X Y			ELEMENT NAME		BUFR UNIT SCALE REFERENCE VALUE			DATA WIDTH (Bits)		UNIT		CREX SCALE		DATA WIDTH (Characters)		Status
0	21	028	Specific differential phase		deg m ⁻¹	5	-200	11		deg m ⁻¹		2		4		Validation

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Class 22 – Oceanographic elements

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR	DATA WIDTH (Bits)	UNIT	SCALE	DATA WIDTH (Characters)	Status
				REFERENCE VALUE					
0 22 179	Software version of profile recorder	CCITT IA5	0	0	256	Character	0	256	Validation
0 22 180	Auto launcher software version number	CCITT IA5	0	0	256	Character	0	256	Validation
0 22 181	Instrument manufacturer's serial number	CCITT IA5	0	0	32	Character	0	32	Validation
0 22 186	Direction from which waves are coming	degree true	0	0	9	degree true	0	3	Validation
0 22 187	Directional spread of wave	°	0	0	9	°	0	3	Validation

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Class 25 – Processing information

TABLE REFERENCE F X Y	ELEMENT NAME	BUFR			DATA WIDTH (Bits)	UNIT	CREX		DATA WIDTH (Characters)	Status
		UNIT	SCALE	REFERENCE VALUE			SCALE			
0 25 144	Matrix dimension (i-axis)	Numeric	0	0	9	Numeric	0		3	Validation
0 25 145	Matrix dimension (j-axis)	Numeric	0	0	9	Numeric	0		3	Validation
0 25 151	Star relative magnitude	Numeric	3	−20000	14	Numeric	3		5	Validation
0 25 152	Star brightness temperature	K	0	0	17	K	0		6	Validation
0 25 153	Limb	Code table	0	0	2	Code table	0		1	Validation

Class 33 – Quality information

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		DATA WIDTH (Bits)	UNIT	CREX		DATA WIDTH (Characters)	Status
				REFERENCE	VALUE			SCALE			
0 33 009	Relative error	%	2	0		14	%	2		5	Validation
0 33 029	Correlation coefficient	Numeric	2	−100		8	Numeric	2		3	Validation
0 33 085	Aerosol optical thickness quality flags	Flag table	0	0		18	Flag table	0		6	Validation
0 33 087	Extent of satellite within south Atlantic anomaly (based on climatological data)	Code table	0	0		4	Code table	0		1	Validation