Table 1: sensor_configuration_fields

Code value Description	Ice bulb	Wet bulb	computed	estimated (visual)	measured (instrumental)	Continuous	Discrete	Event	Double v section louvers	non-overlapping louvers	O-44	Not applicable		Overlapping louvers		single v-section louvers		vented, non-louvered		Heated		Unheated		Metal alloy		Plastic / Glass reinforced plastic		Reed / grass / leaf		Continued on next page
Type	0	1	0	1	2	0	1	2	0	\-		2		က		4		5		0		1		0		1		2		
Field name	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)		int (fk)		int (fk)		int (fk)		int (fk)		int (fk)		int (fk)		int (fk)		int (fk)		int (fk)		
Parameter Field	ice bulb status	ice bulb status	observing method	observing method	observing method	sampling strategy	sampling strategy	sampling strategy	sensor housing -	sensor housing -	configuration	sensor housing -	configuration	sensor housing -	configuration	sensor housing -	configuration	sensor housing -	$\operatorname{configuration}$	sensor housing	- heating	sensor housing	- heating	sensor housing	- material	sensor housing	- material	sensor housing	- material	
Value Field	humidity	humidity	all	all	all	all	all	all	all	l'e		all		all		all		all		all		all		all		all		all		
П	0	0			1	2	2	2	3	c:	,	3		3		3		3		4		4		ಬ		ಸ		5		
	0	1	2	က	4	ಬ	9	2	∞	6)	10		11		12		13		14		15		16		17		18		

Table 1 sensor_configuration_fields (cont.)

Parameter Field name Type Code value Description	sing int (fk)	- material	sensor housing - int (fk) 0 Concentric tube	r housing - int (fk) 1 (Arlindrical section plate shield	ng Translation	r housing - int (fk) 2 Integrated (e.g. chilled mirror)	βr	r housing - int (fk) 3 Marine Stevenson screen	radiation shielding	r housing - int (fk) 4 Open covered inverted V roof		r housing - int (fk) 5 open covered lean-to	1g	r housing - int (fk) 6 Rectangular section section		r housing - int (fk) 7 Square section shield	radiation shielding	r housing - int (fk) 8 Stevenson screen	radiation shielding	r housing - int (fk) 9 Triangular section shield	radiation shielding	r hous- int (fk) 0 Aspirated (e.g. Asmann)	type	r hous- int (fk) 1 Hand-held digital temperature/humidity sensor		r hous- int (fk) 2 Other shelter	type	r hous- int (fk) 3 Radiation Shield (e.g. cylindrical /	type Gill multi-plate radiation shield)	Continued on most now
Field Paran	sensc	- ma	sensor housing radiation shieldi	sensor housing -	radiation shi	sensor housing -	radiation shi	sensor housing -	radiation shi	sensor housing	radiation shi	sensor housing -	radiation shi	sensor housing	radiation shi	sensor housing -	radiation shi	sensor housing	radiation shi	sensor housing -	radiation shi	sensor hous-	ing - type	sensor hous-	ing - type	sensor hous-	ing - type	sensor hous-	ing - type	
Value	5 all		all	الع		all		all		all		all		all		all		all		all		all		all		all		all		
	19		9	9)	9		9		9		9		9		9		9		9		2		7		2		2		
			20	9.1	i	22		23		24		25		26		27		28		59		30		31		32		33		

2

Table 1 sensor-configuration_fields (cont.)

(r Field name Type Code value Description	int (fk) 4 Screen		int (fk) 5 Sling / whirling		int (fk) 6 Unscreened.		int (fk) 0 Artificial aspiration in use, constant	flow at time of reading	int (fk) 1 Artificial aspiration in use, variable	flow at time of reading	int (fk) 2 Natural ventilation in use		numeric NA cubic m per second		int (fk) 0 Aft mast.		int (fk) 1 Bridge wing		int (fk) 2 Foremast yardarm		int (fk) 3 Foremast.		int (fk) 4 Handheld.		int (fk) 5 Main deck		int (fk) 6 Mainmast yardarm		1	$\operatorname{int}\left(\operatorname{tk}\right)$ 7 Manmast.
	Field Parameter I	-Si	ing - type	sensor hous-	ing - type	sensor hous-	ing - type	sensor housing	- ventilation	sensor housing	- ventilation	sensor housing	- ventilation	sensor housing -	ventilation rate	sensor loca-	tion - ship	sensor loca-	tion - ship		tion - ship	sensor loca-	tion - ship		sellsol loca-						
	Value	all		all		all		all		all		all		all		all		all		all		all		all		all		all		110	all
		2		2		2		∞		∞		∞		6		10		10		10		10		10		10		10		,	10
		34		35		36		37		38		39		40		41		42		43		44		45		46		47		0	48

Continued on next page

Table 1 sensor_configuration_fields (cont.) $\,$

															weather service							
	Code value Description	Mast on wheelhouse top yardarm	Mast on wheelhouse top.	Meteorological mast.	Not fitted.	Other	Pressurised wheelhouse (closed and	not vented to the outside). Wheelhouse	Wheelhouse, not pressurised	(vented to the outside).	Center	Port	Starboard	Windward side	National hydrometeorological / wear	Other	Standards institute	Alcohol / glycol	Bead thermistor	Capacitance bead	Capacitance wire	Continued on next page
	Type			10	11	12	13	14	15					3	0	1	2	0	1	2	က	
, , , ,	Field name	int (fk) 8	int (fk) 9	int (fk) 1	int (fk) 1	int (fk) 1	int (fk) 1	int (fk) 1	int (fk) 1		int(fk) 0	int (fk) 1	int (fk) 2	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	
Ш	ld Parameter	sensor loca- tion - ship	sensor loca- tion - ship	sensor loca- tion - ship	sensor loca- tion - ship	sensor loca- tion - ship	sensor loca-	tion - snip sensor loca- tion - ship	sensor loca-	tion - ship	sensor side - ship	sensor side - ship	sensor side - ship	sensor side - ship	sensor owner	sensor owner	sensor owner	sensor type - air temperature				
Ш	Value Field	all se	all se	all se	all se	all se	all se	all se	all	ti	all	all	all	all	all	all	all	air temperature	air temperature	air temperature	air temperature	
		10	10	10	10	10	10	10	10		11	11	11	11	12	12	12	13	13	13	13	
		49	20	51	52	53	54	55	26		22	28	59	09	61	62	63	64	65	99	29	

Table 1 sensor_configuration_fields (cont.)

	Code value Description	Chip thermistor	Mercury	Resistive sensor	Rod thermistor	Open Scale barograph with 1 day clock.	Open Scale barograph with 2 day clock.	Open Scale barograph with 3 day clock.	Open Scale barograph with 4 day clock.	Open Scale barograph with 5 day clock.	Open Scale barograph with 6 day clock.	Open Scale barograph with 7 day clock.	Open Scale barograph with 8 day clock.	Open Scale barograph with 9 day clock.	Open Scale barograph.	Other (specify in footnote).	Continued on next page
rable 1 sensor-configuration liedes (conf.,	Field name Type	int (fk) 4	int (fk) 5	int (fk) 6	int (fk) 7	int (fk) 0	int(fk) 1	int (fk) 2	int (fk) 3	int (fk) 4	int (fk) 5	int (fk) 6	int (fk) 7	int (fk) 8	int (fk) 9	int (fk) 10	
	Field Parameter	sensor type - air temperature	sensor type - barograph	sensor type - barograph	sensor type - barograph												
- 11	Value F	air temperature	air temperature	air temperature	air temperature	pressure trend	pressure trend	pressure trend									
		13	13	13	13	14	14	14	14	14	14	14	14	14	14	14	
		89	69	20	71	72	73	74	75	92	22	28	79	80	81	82	

Table 1 sensor_configuration_fields (cont.) $\,$

Table 1 sensor_configuration_fields (cont.) $\,$

Code in Description	ا ا	Carbon hygristor	chilled mirror hygrometer	dew cell	Electric.	Goldbeater's skin	Gravimetric	Hair hygrometer.	Humicap capacitance sensor with active de-icing method	Hygristor.	optical absorption sensor	Ordinary human hair	Other	Paper - metal coil	Psychrometer.	Continued on next page
Field name Type	2d f +	fk) 3	fk) 4	fk) 5	fk) 6	fk) 7	fk) 8	fk) 9	fk) 10	fk) 11	fk) 12	fk) 13	fk) 14	fk) 15	fk) 16	
		int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)								
Field Denameter	11 23 12	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity								
ouleV	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	
	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	
	86	66	100	101	102	103	104	105	106	107	108	109	110	111	112	

Table 1 sensor_configuration_fields (cont.)

Code value Description	Resistive (conductive polymer)	Resistive (generic)	Resistive (salt polymer)	Rolled hair (torsion)	Sippican Mark IIA carbon hygristor	Thermal conductivity	Twin alternatively heated Humicap capacitance sensor	Vaisala A-Humicap	Vaisala H-Humicap	Vaisala RS90	VIZ B2 hygristor	VIZ Mark II carbon hygristor	TBD	Automatic, included (using WMO Codes 4677 and 4561)	Automatic, included (using WMO codes 4680 amd 4531) Continued on next page
Type	17	18	19	20	21	22	23	24	25	26	27	28	t_b_d	0	1
Field name	int (fk) 1	int (fk) 1	int (fk) 1	int (fk) 2	int (fk) 2	int (fk) 2	int (fk) 2	int (fk)	int (fk)	int (fk)	int (fk)				
Field Parameter	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - humidity	sensor type - precipitation	sensor type - present weather	sensor type - present weather
Value	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	humidity	precipitation	present weather	present weather
	18	18	18	18	18	18	18	18	18	18	18	18	19	20	20
	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127

Table 1 sensor_configuration_fields (cont.)

Code value Description	11:12 22	Automatic, omitted (no significant phenomenon to report)	Manned, included	Manned, omitted (no observation, data not available)	Manned, omitted (no significant phenomenon to report)	in situ, accuracy better han 0.02 ppt	in situ, accuracy worse than 0.02 ppt	No salinity	sample analysis	Bait tanks thermometer.	Bucket	Condensor Intake on Steam Ships, or Engine Cooling System Inlet on Motor Ships.	Digital BT	electronic sensor	Expendable BT	Continued on next page
ame Type		(k) 3	fk) 4	fk) 5	fk) 6	fk) 0	fk) 1	(k) 2	ľk) 3	ľk) 0	fk) 1	ľk) 2	fk) 3	(k) 4	fk) 5	
Field name	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	
Parameter	11 20 2	sensor type - present weather	sensor type - present weather	sensor type - present weather	sensor type - present weather	sensor type - salinity	sensor type - salinity	sensor type - salinity	sensor type - salinity	sensor type - water temperature	sensor type - water temperature	sensor type - water temperature	sensor type - water temperature	sensor type - water temperature	sensor type - water temperature	
Value Field	er	present weather	present weather	present weather	present weather	salinity	salinity	salinity	salinity	water temperature	water temperature	water temperature	water temperature	water temperature	water temperature	
	20	20	20	20	20	21	21	21	21	22	22	22	22	22	22	
	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	

Table 1 sensor_configuration_fields (cont.) $\,$

Code value Description	Hull contact sensor	Implied bucket [note: applicable to early ICOADS data]	In-line thermosalinograph	Infrared radiometer	Infrared scanner	Mechanical BT	Microwave scanner	Other	Radiation thermometer.	Reversing thermometer	reversing thermometer or mechanical sensor	STD / CTD sensor	Thermistor Chain	Through Hull sensor.	Towed body	Continued on next page
Type	9	2	∞	6	10	11	12	13	14	15	16	17	18	19	20	
Field name	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	
Parameter	sensor type - water temperature	sensor type - water temperature	sensor type - water temperature	sensor type - water temperature	sensor type - water temperature	sensor type - water temperature	sensor type - water int (fk) temperature	sensor type - water temperature	sensor type - water temperature	sensor type - water temperature	sensor type - water temperature	sensor type - water temperature				
Value Field	water temperature	water temperature	water temperature	water temperature	water temperature	water temperature	water temperature	water temperature	water temperature	water temperature	water temperature	water temperature	water temperature	water temperature	water temperature	
	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	
	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	

Table 1 sensor_configuration_fields (cont.)

Ш	value Description	Trailing thermistor	unknown or non-bucket	óy	ıer	shipborne wave recorder	Anemograph.	Anemometer - type unspecified	Beaufort force	Cup anemometer and wind vane (combined unit).	Cup anemometer and wind vane (separate instruments).	Sup rotor	Handheld anemometer.	Other (specify in footnote).	Propeller rotor	Propeller vane.	Continued on next page
	Code value	Ľ	m	hood	other	shi	An	An	Be	Cu	Cu (se	Cn	Ha	Ot]	Pro	Pro	ပိ
Ш	Type	21	22														
	name	_		fk) 0	fk) 1	fk) 2	fk) 0	fk) 1	fk) 2	fk) 3	fk) 4	fk) 5	fk) 6	fk) 7	fk) 8	fk) 9	
	Field name	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	int (fk)	
	Farameter	sensor type - water temperature	sensor type - water temperature	sensor type - waves	sensor type - waves	sensor type - waves	sensor type - wind speed	sensor type - wind speed	sensor type - wind speed	sensor type - wind speed	sensor type - wind speed	sensor type - wind speed	sensor type - wind speed	sensor type - wind speed	sensor type - wind speed	sensor type - wind speed	
	Value Field	water temperature	water temperature	waves	waves	waves	wind speed	wind speed	wind speed	wind speed	wind speed	wind speed	wind speed	wind speed	wind speed	wind speed	
		22	22	23	23	23	24	24	24	24	24	24	24	24	24	24	
		158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	

Table 1 sensor_configuration_fields (cont.)

wind speed sensor type wind speed sensor locat distance fro sensor locat - distance fi	1 1	int (fk) numeric numeric	NA NA	Wind observation through ambiant noise (WOTAN) Distance of sensor from bow of ship (m)
d spor sor and and sor sor sor sor sor star star	ı	ıt (fk) umeric umeric	11 NA NA	Wind observation through ambiant noise (WOTAN) Distance of sensor from bow of ship (m)
or or tar	-	umeric umeric	NA NA	Distance of sensor from bow of ship (m)
ar Br	sensor location - n distance from bow	umeric	NA	
	sensor location n - distance from center line			Distance of sensor from center line of ship (m)
	sensor location - n height above deck	numeric	NA	Height of sensor above deck on which it is installed (m)
	n	numeric	NA	Weight of sensor (g)
	telemetry_sonde in	int (fk)		NA
	software_version va	varchar	NA	NA
÷	manufacturer int	int(fk)	0	Vaisala
sensor_type		$\operatorname{int}(\operatorname{fk})$	0	Anemometer
의	sensor_model int	$\operatorname{int}(\operatorname{fk})$	0	WMT700
u	serial_number va	varchar	NA	ABC-123-zyx-987
50	observing-method int	int(fk)	0	Instrumental
50	observing-method int	int(fk)	1	Estimated
50	observing-method int	int(fk)	2	Computed
56	sampling_strategy int	int(fk)	0	Continuous
5h	sampling_strategy int	int(fk)	1	Discrete
50	sampling_strategy int	$\operatorname{int}(\operatorname{fk})$	2	Event
	last_calibration_date timestamp	nestamp	NA	NA
	calibration_status int	int(fk)	0	No changes - in calibration.
	calibration_status int	int(fk)	1	No changes - out of calibration.
• —	calibration_status int	int(fk)	2	No changes - calibration unknown.
calibration_status		$\operatorname{int}(\operatorname{fk})$	3	Recalibrated - in calibration.