

Appendix 13. SATAIDWIND Format

SATAID Wind Data format

For AMV(Atmospheric Motion Vector) , ASCAT , etc...

Filename : AAAAAAyyyyMMddhh.bin or AAAAAAyyyyMMddhhmm.bin

AAAAAA : Arbitrary

yyyy : Reference year , MM : Reference month, dd : Reference day , hh : Reference hour , mm : Reference minutes

Reference datetime is used to determine which file to read.

(Filename datetime need to correspond to Satellite image datetime)

13.1 Data structure

Control Part
Data Part 1
Data Part 2
Data Part 3

Data Part N(N=data part element number)

13.2 Control Part

Byte order (=octed)	Content	Value(example)	Format	Info
1-10	format	SATAIDWIND(fix)	ASCII code	First 10 byte need to set : "SATAIDWIND"
11-14	control part record length	128(fix)	Int32	Control Part record length is 128byte
15	file version number	1	int8	
16	reserve			
17-20	year(UTC)	2016	int32	reference datetime(year)
21	month(UTC)	10	int8	reference datetime(month)
22	day(UTC)	19	int8	reference datetime(day of month)
23	hour(UTC)	16	int8	reference datetime(hour)
24	minutes(UTC)	0	int8	reference datetime(minutes)
25	second(UTC)	0	int8	reference datetime(second)
26	reserve			
27-46	data name	SS-AMV_FD_B03	ASCII code	ex)ASCAT-A ASCAT-B LL-AMV_FD_B03 LL-AMV_TG_B13
47-66	satellite name	Himawari-8	ASCII code	ex)Metop-A,Himawari-8,Himawari-9
67-70	data part element number	2000	int32	
71-74	data part wind speed and direction data number	1	int32	
75-78	data part record length	28	int32	data part byte number(16 + data part wind speed and direction data number * 12)
79	data type flag	3	int8	0=Sea Surface Wind(ASCAT),1=AMV,2=low level AMV,3=sea surface wind converted from low level AMV,4=all weather sea surface wind(AWSSW)
80	height data flag	0	int8	0=height(hPa)(int32),1=height(m)(int32),2=low level AMV coefficient data(float32)
81	Quality flag info	0	int8	0=EUMETSAT QI
82	wind direction flag	1	int8	0=radian,1=degree
83	wind speed flag	0	int8	0=m/s,1=kt
84-128(control part record length)	reserve	-	-	reserve

13.3 Data Part

Byte order (=octed)	Content	Value(example)	Format	Info
1-4	Time Interval from Reference datetime(control part) to observation datetime (1/100 seconds)	319200	int32	360000=1hour
5-8	latitude(deg)	18.1	float32	North:positive, South:negative
9-12	longitude(deg)	108.1	float32	east longitude : positive west longitude : negative

13-16	height(hPa,m),coefficient	850	int32(float32)	refer control part height flag
17-20	wind direction (deg or radian)	320.5	float32	radian or degree : selected by control part wind direction flag
21-24	wind speed (m/s,kt)	15.1	float32	m/s or kt : selected by control part wind speed flag
25-28	Quality flag(Quality index)	0.6	int32(float32)	Quality info is selected by control part quality flag info
(17+12n)- (20+12n)	wind direction(n-th)	310.5	float32	
(21+12n)- (24+12n)	wind speed(n-th)	18.2	float32	
(25+12n)- (28+12n)	Quality flag(n-th)	0.3	int32(float32)	quality flag info is selected by control part quality flag info
28 (+ 12n)-data part data size	reserved			

(data format)

int8 1byte integer(char)

int16 2byte integer(short)

int32 4byte integer(int)

float32 4byte floating point value(float)

* Endian : little endian