

Vaisala FD12P measures visibility with an optical forward scattering probe, temperature with a pt100 sensor and precipitation with a capacitive sensor. From the visibility, temperature and precipitation observations the instruments produces NWS and WMO present weather codes that can be found below.

The NWS Codes

Table 30 Internal Weather Types, NWS Code

Weather Type	Code
No precipitation	C
Precipitation	P
Drizzle	L
Rain	R
Snow	S
Ice pellets	IP
Sleet	IP
Hail	A
Ice crystals	IC
Snow grains	SG
Snow pellets	SP
Freezing drizzle	ZL
Freezing rain	ZR

The NWS codes are used with intensity indicator '+' for heavy, '-' for light, and none (space) for moderate. For example, 'R+' means heavy rain.

Table 31 WMO SYNOP Codes (4680, W_aW_a)

Code	Weather type
00	Clear.
04	Haze or smoke, or dust in suspension in the air, visibility equal to or greater than 1 km.
05	Haze or smoke, or dust in suspension in the air, visibility less than 1 km.
10	Mist.

Code figures 20 to 25 are used, if precipitation or fog was observed during the preceding hour but not at the time of observation.

Table 32 WMO SYNOP Codes (4680, W_aW_a)

Code	Weather type
20	Fog
21	PRECIPITATION
22	Drizzle (not freezing) or snow grains
23	Rain (not freezing)
24	Snow
25	Freezing rain or freezing drizzle

The following code figures are used if precipitation or fog is observed at the time of observation.

Table 33 WMO SYNOP Codes (4680, W_aW_a)

Code	Weather type
30	FOG
31	Fog or ice fog, in patches.
32	Fog or ice fog, has become thinner during the past hour.
33	Fog or ice fog, not applicable change during the past hour.
34	Fog or ice fog, has begun or become thicker during the past hour.
40	PRECIPITATION
41	Precipitation, slight or moderate
42	Precipitation, heavy
50	DRIZZLE
51	Drizzle, not freezing, slight
52	Drizzle, not freezing, moderate
53	Drizzle, not freezing, heavy
54	Drizzle, freezing, light
55	Drizzle, freezing, moderate
56	Drizzle, freezing, heavy
60	RAIN
61	Rain, light
62	Rain, moderate
63	Rain, heavy
64	Rain, freezing, light
65	Rain, freezing, moderate
66	Rain, freezing, heavy
67	Rain, (or drizzle) and snow, light
68	Rain, (or drizzle) and snow, moderate or heavy
70	SNOW
71	Snow, light
72	Snow, moderate
73	Snow, heavy
74	Ice pellets, light
75	Ice pellets, moderate
76	Ice pellets, heavy
77	Snow grains (from WMO 4677)
78	Ice crystals (from WMO 4677)

Code	Weather type
80	SHOWERS OR INTERMITTENT PRECIPITATION
81	Rain showers, light
82	Rain showers, moderate
83	Rain showers, heavy
84	Rain showers, violent (>32 mm/h)
85	Snow showers, light
86	Snow showers, moderate
87	Snow showers, heavy
89	Showers of hail, with or without rain or rain and snow mixed, not associated with thunder (from WMO 4677)

Table 34 WMO Code Table 4678. Codes Used by FD12P

Qualifier		Weather Phenomena	
Intensity 1	Descriptor 2	Precipitation 3	Obscuration 4
-Light	BC Patches	DZ Drizzle	BR Mist
Moderate (no qualifier)	SH Shower(s)	RA Rain	FG Fog
+Heavy	FZ Freezing	SN Snow	DU Widespread dust
		SG Snow Grains	HZ Haze
		IC Ice Crystals	
		PL Ice Pellets	
		GR Hail	