EXPLANATION OF DCMET FLIGHT DATA

Standard Aircraft Sources	IRS	Inertial Reference System
	FMC	Flight Management Computer
	NB	Nose Boom

Time	[s]	Bord time; usually UTC seconds since midnight, resolution 10 Hz (primary data frame freq.)
Height from Radio Altimeter	[m]	Height above ground measured by radio altimeter (works only at low altitudes)
IRS Actual Track Angle	[degree (0-360)]	Track angle of aircraft from inertial reference system
IRS Groundspeed	[m/s]	Groundspeed of aircraft from inertial reference system
IRS Acceleration (z-Direction)	[m/s^2]	Acceleration in downward direction of aircraft reference system
IRS Acceleration (x-Direction)	[m/s^2]	Acceleration in forward direction of aircraft reference system
IRS Acceleration (y-Direction)	[m/s^2]	Acceleration in sideward direction of aircraft reference system
Deicing status (0V=off)	[V]	De-icing of inlets
FMC Longitude	[degree (0-360)]	Position from flight managment system (combination of GPS and IRS position)
FMC Latitude	[degree (0-180)]	Position from flight managment system (combination of GPS and IRS position)
GPS Longitude	[degree (0-360)]	Position from GPS
GPS Latitude	[degree (0-180)]	Position from GPS
GPS Altitude	[m]	Altitude from GPS
Event	[V]	Event button pressed
IRS Vertical Acceleration	[m/s^2]	Vertical acceleration in earth reference system
IRS True Heading	[degree (0-360)]	Heading of aircraft (direction)
IRS Roll Angle	[degree (+-180)]	Roll angle of aircraft (wing up/down)
IRS Pitch Angle	[degree (+-180)]	Pitch angle of aircraft (nose up/down)
IRS Yaw Rate	[degree/sec]	Rate of heading angle
IRS Roll Rate	[degree/sec]	Rate of roll angle
IRS Pitch Rate	[degree/sec]	Rate of pitch angle

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Static Pressure (from NB_PSIA)	[hPa]	Undisturbed outside pressure
Total Air Temperature (deicing corrected, from BDY-TTQ)	[K]	Temperature measured outside the aircraft including adabatic heating of air by ram pressure !!!!THIS IS NOT THE REAL OUTSIDE TEMPERATURE!!!!!
Vertical Velocity (from IRS)	[m/s]	Vertical velocity of aircraft in earth reference system
East-West Velocity (Data from IRS (high freq.) + GPS (low freq.))	[m/s]	East-west velocity of aircraft in earth reference system (drift corrected)
North-South Velocity (Data from IRS (high freq.) + GPS (low freq.))	[m/s]	North-southt velocity of aircraft in earth reference system (drift corrected)
Dynamic Pressure	[hPa]	Pressure difference at noseboom caused by ram pressure
Static Air Temperature (from BDY-TTQ)	[K]	Undisturbed outside temperature
Virtual Temperature	[K]	*Calculated*
Potential Temperature	[K]	*Calculated*
Virtual Potential Temperature	[K]	*Calculated*
Pressure Altitude	[m]	Altitude calculated from pressure based on standard atmosphere
Height above Sea Level	[m]	Altitude calculated from integration of barometric height formula using measured temperature
Absolute Humidity	[g/m^3]	*Calculated*
Relative Humidity	[%]	*Calculated* with Respect to Water
Mixing Ratio	[g/kg]	*Calculated*
Humidity Data Source	[]	(1=Vaisala,2=ly_a(lin),3=ly_a(log),4=GE-dewpoint) all humidity data are a composite of three instruments with emphasis on the lyman-alpha absorption instrument. Data from the different instruments are separated by novalues for a time period of 1 sec
Dewpoint Temperature	[K]	
Calculated True Airspeed	[m/s]	Speed of aircraft relative to the air
Angle of Attack	[degree (+-180)]	Vertical angle of aircraft relative to the air stream
Angle of Sideslip	[degree (+-180)]	Horizontal angle of aircraft relative to the air stream
Mach Number	[]	
East Wind Component	[m/s]	East component of wind vector
North Wind Component	[m/s]	North component of wind vector

Vertical Wind Component	[m/s]	Vertical component of wind vector
Horizontal Windspeed	[m/s]	Magnitude of wind vector
Horizontal Wind Direction	[degree (0-360)]	Direction of wind vector in <u>meteorological notation</u>!!!! 0°: north wind (wind vector points to south) 90°: east wind (wind vector points to west) 180°: south wind (wind vector points to north) 270°: west wind (wind vector points to east)
Height of terrain below aircraft	[m]	Over continents, height of terrain below aircraft is taken from a 3D model of earth, sea is coded with height of –500m
Height above Ground	[m]	*Calculated* from (Height above Sea Level)- (Height of Terrain below Aircraft), if flying above sea be aware of the offset of –500m!