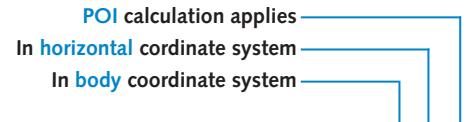


Correvit S-Motion DTI

Type 2055A... (standard),
2053A... (small)

Non-contact optical sensors

S-Motion signal description



Signal name	Unit	Description	Direction	B	H	P
VelX	km/h	Longitudinal velocity. Generated from optical velocity and IMU signals	forward	X		X
VelY	km/h	Transverse velocity. Generated from optical velocity and IMU signals	left	X		X
Vel	km/h	Resulting velocity calculated from VelX and VelY	forward	X		X
Angle	°	Angle between vehicle moving direction and vehicle X-axis Calculated from VelX and VelY	left	X		X
Distance	m	Accumulated distance calculated by integration of Vel	forward	X		X
Pitch	°	Angle between horizontal and body coordinate system Rotation around horizontal Y-axis	forward		X	O
Roll	°	Angle between horizontal and body coordinate system Rotation around body X-axis	right		X	O
Timestamp		Processor cycle count. Increasing by 1 every 2 ms				
Radius	m	Path radius. Calculated from VelX and AngVelZ_body	-	X		X
AccX_hor	m/s ²	Longitudinal acceleration. Influence of gravity eliminated	forward		X	-
AccY_hor	m/s ²	Transverse acceleration. Influence of gravity eliminated	left		X	-
AccZ_hor	m/s ²	Vertical acceleration	up		X	-
AccC_body	m/s ²	Transverse acceleration calculated from VelX and AngVelZ_body Influence of gravity eliminated	left	X		X

X = yes
- = no
O = not relevant

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S-Motion signal description

POI calculation applies
 In horizontal coordinate system
 In body coordinate system

Signal name	Unit	Description	Direction	B	H	P
AngVelX_hor	°/s	Angular velocity around X-axis	right		X	O
AngVelY_hor	°/s	Angular velocity around Y-axis. Pitch rate	forward		X	O
AngVelZ_hor	°/s	Angular velocity around Z-axis. Yaw rate	left		X	O
VelX_cor	km/h	Raw longitudinal velocity. Only optical (Correvit) measurement	forward	X		–
VelY_cor	km/h	Transverse velocity. Only optical (Correvit) measurement	left	X		–
Vel_cor	km/h	Resulting velocity calculated from VelX_cor and VelY_cor	–	X		–
Angle_cor	°	Angle between vehicle moving direction and vehicle X-axis Calculated from VelX_cor and VelY_cor	left	X		–
AccX_body	m/s ²	Longitudinal acceleration	forward	X		–
AccY_body	m/s ²	Transverse acceleration	left	X		–
AccZ_body	m/s ²	Vertical acceleration	up	X		–
AngVelX_body	°/s	Angular velocity around X-axis. Roll rate	right	X		O
AngVelY_body	°/s	Angular velocity around Y-axis	forward	X		O
AngVelZ_body	°/s	Angular velocity around Z-axis	left	X		O

X = yes
 – = no
 O = not relevant

S-Motion signal description

Signal name	Description
Latitude	GPS latitude position
Longitude	GPS longitude position
TimeOfWeek	GPS time (UCT)
Track	Moving direction in GPS coordinate system. 0° = North; 90° = East; 180° = South; 270° = West
Height	Height above sea level
AnaIn1	Analog input 1
AnaIn2	Analog input 2
DigIn	Digital input
SensorID	User-specific number that can be set in KiCenter on page "CAN Bus"
Temperature	Temperature inside the sensor head
LampCurrent	Current consumption of halogen lamp
FilterSetting	Number of samples used for averaging if filter is activated
NumOfSat	Number of satellites used for GPS

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S-Motion signal description

Signal name	Description
STST	0 – Sensor active 1 – Standstill. Sensor detects no movement
FilterOffOn	0 – moving average filter is not activated 1 – moving average filter is activated
LampCurrentControl	0 – current control of halogen lamp is not active 1 – current control of halogen lamp is active
TemperatureOK	0 – temperature in sensor head is too high (lamp will switch off) 1 – temperature in sensor head is below 80°C
HeadStatus	0 – sensor head is not connected 1 – sensor head is connected
AngleSwitchedOff	0 – angle output active (Velocity is above the set limit) 1 – angle output is 0 (Velocity is below the set limit)
Direction	Resulting direction – DirectionMotion*DirectionMounting
SatFixed	0 – not enough satellites available for GPS position evaluation 1 – enough satellites available for GPS position
AngVelCorrection	0 – no offset correction of AngVel signals 1 – standstill is detected and automatic offset correction is active
DirectionMotion	0 – sign of velocity from "Motion Algorithm" is negative 1 – sign of velocity from "Motion Algorithm" is positive
DirectionMounting	0 – mounting direction is set to "Reverse" 1 – mounting direction is set to "Normal"
DirectionHeadasValid	0 – direction signal from sensor head is not detected as valid 1 – direction signal from sensor head is detected as valid
DirectionHead	0 – direction from sensor head is negative 1 – direction from sensor head is positive

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