

**J1939 Dual 3 Axis Incline Sensor - Master STATUS Message 65467 (DINC)**

**MESSAGE PARAMETERS**

This message is transmitted by sensor at REP Rate

<b>PGN: 65467 (FFBB hex)</b>	
Transmission Repetition Rate	50ms
Data Length	8 bytes
Data Page	0
PDU Format	255 (FF hex)
PDU Specific	187 (BB hex)
Priority	4
Source Address	219 (DB hex)
Communication Bit Rate	250 K bits/sec

**PART NUMBERS**

5 pin M12	DINC-B-1939-M12
4 pin DT04	DINC-B-1939-DE4
6 pin DT04	DINC-B-1939-DE6
Flying Lead	DINC-B-1939-SCXX
<i>For flying lead replace XX with desired length in inches</i>	
<i>For high temperature applications use aluminum housing. Add modifier 51 (red) or 53 (black) to end of Joral P/N for aluminum.</i>	

**CONNECTIONS / WIRING**

Signal	M12 5 pin	DE4	DE6
V+	1	3 RED	3 RED
Common	2	4 BLACK	4 BLACK
CANH	3	1 YELLOW	1 YELLOW
CANL	4	2 GREEN	2 GREEN
SA Select	5		5 WHITE
Common			6 BLACK

**SOURCE ADDRESS SELECTION**

Value (ohms)	Address	PGN
No Resistor	219	65467
590 ( <i>id-tag 1</i> )	220	65467
976 ( <i>id-tag 2</i> )	221	65467
1500 ( <i>id-tag 3</i> )	222	65467
2260 ( <i>id-tag 4</i> )	223	65467
3400 ( <i>id-tag 5</i> )	224	65467
5360 ( <i>id-tag 6</i> )	225	65467
9530 ( <i>id-tag 7</i> )	226	65467

**8 BYTE / 64 BIT DATA FIELD BIT POSITIONS**

BYTE	BIT	BIT FUNCTION	FIELD DESCRIPTION	
BYTE 1	1	X Angle bit0 LSB	<b>MASTER X ANGLE (10 bits)</b> 0 to 1000, 0.1° per bit	
	2	X Angle bit1		
	3	X Angle bit2		
	4	X Angle bit3		
	5	X Angle bit4		
	6	X Angle bit5		
	7	X Angle bit6		
	8	X Angle bit7		
BYTE 2	9	X Angle bit8	<b>X ANGLE POS SIGN FLAG (2 bits)</b> 01 = Positive Angle	
	10	X Angle bit9 MSB		
	11	X Positive Flag LSB	<b>X ANGLE NEGATIVE SIGN FLAG (2 bits)</b> 01 = Negative Angle	
	12	X Positive Flag MSB		
	13	X Negative Flag LSB	<b>MASTER Y ANGLE (10 bits)</b> 0 to 1000, 0.1° per bit	
	14	X Negative Flag MSB		
	BYTE 3	15		Y Angle bit0 LSB
		16		Y Angle bit1
17		Y Angle bit2		
18		Y Angle bit3		
19		Y Angle bit4		
20		Y Angle bit5		
21		Y Angle bit6		
22		Y Angle bit7		
BYTE 4	23	Y Angle bit8	<b>Y ANGLE POS SIGN FLAG (2 bits)</b> 01 = Positive Angle	
	24	Y Angle bit9 MSB		
	25	Y Positive Flag LSB	<b>Y ANGLE NEGATIVE SIGN FLAG (2 bits)</b> 01 = Negative Angle	
	26	Y Positive Flag MSB		
	27	Y Negative Flag LSB	<b>MASTER Z ANGLE (10 bits)</b> 0 to 1000, 0.1° per bit	
	28	Y Negative Flag MSB		
	BYTE 5	29		Z Angle bit0 LSB
		30		Z Angle bit1
31		Z Angle bit2		
32		Z Angle bit3		
33		Z Angle bit4		
34		Z Angle bit5		
35		Z Angle bit6		
36		Z Angle bit7		
BYTE 6	37	Z Angle bit8	<b>Z ANGLE POS SIGN FLAG (2 bits)</b> 01 = Positive Angle	
	38	Z Angle bit9 MSB		
	39	Z Positive Flag LSB	<b>Z ANGLE NEGATIVE SIGN FLAG (2 bits)</b> 01 = Negative Angle	
	40	Z Positive Flag MSB		
	41	Z Negative Flag LSB	used	
	42	Z Negative Flag MSB		
	43	unused		
	44	unused		
45	unused			
46	unused			
BYTE 7	47	unused		
	48	unused		
	49	unused		
	50	unused		
	51	unused		
	52	unused		
	53	unused		
	54	unused		
BYTE 8	55	unused	<b>SENSITIVITY Setting (3 bits)</b> <i>Field contains value of current setting</i> 0 = most sensitive, 7 = most sluggish ( <i>default 4</i> )	
	56	unused		
	57	Sensitivity bit0 LSB		
	58	Sensitivity bit1	<b>LED WEIGHT Setting (3 bits)</b> <i>Field contains value of current setting</i> Degrees per LED Indicator, 1 to 7 ( <i>default 1</i> )	
	59	Sensitivity bit2 MSB		
	60	LED Weight bit0 LSB		
	61	LED Weight bit1	used	
	62	LED Weight bit2 MSB		
63	unused			
64	unused			



**J1939 Dual 3 Axis Incline Sensor - Slave STATUS Message 65466 (DINC)**

**MESSAGE PARAMETERS**

This message is transmitted by sensor at REP Rate	
<b>PGN: 65466 (FFBA hex)</b>	
Transmission Repetition Rate	50ms
Data Length	8 bytes
Data Page	0
PDU Format	255 (FF hex)
PDU Specific	186 (BA hex)
Priority	4
Source Address	219 (DB hex)
Communication Bit Rate	250 K bits/sec

**SOURCE ADDRESS SELECTION**

Value (ohms)	Address	PGN
No Resistor	219	65466
590 ( <i>id-tag 1</i> )	220	65466
976 ( <i>id-tag 2</i> )	221	65466
1500 ( <i>id-tag 3</i> )	222	65466
2260 ( <i>id-tag 4</i> )	223	65466
3400 ( <i>id-tag 5</i> )	224	65466
5360 ( <i>id-tag 6</i> )	225	65466
9530 ( <i>id-tag 7</i> )	226	65466

**8 BYTE / 64 BIT DATA FIELD BIT POSITIONS**

BYTE	BIT	BIT FUNCTION	FIELD DESCRIPTION	
BYTE 1	1	X Angle bit0 LSB	<b>SLAVE X ANGLE (10 bits)</b> 0 to 1000, 0.1° per bit	
	2	X Angle bit1		
	3	X Angle bit2		
	4	X Angle bit3		
	5	X Angle bit4		
	6	X Angle bit5		
	7	X Angle bit6		
	8	X Angle bit7		
BYTE 2	9	X Angle bit8	<b>X ANGLE POS SIGN FLAG (2 bits)</b> 01 = Positive Angle	
	10	X Angle bit9 MSB		
	11	X Positive Flag LSB	<b>X ANGLE NEGATIVE SIGN FLAG (2 bits)</b> 01 = Negative Angle	
	12	X Positive Flag MSB		
	13	X Negative Flag LSB	<b>SLAVE Y ANGLE (10 bits)</b> 0 to 1000, 0.1° per bit	
	14	X Negative Flag MSB		
	BYTE 3	15	Y Angle bit0 LSB	<b>Y ANGLE POS SIGN FLAG (2 bits)</b> 01 = Positive Angle
		16	Y Angle bit1	
17		Y Angle bit2		
18		Y Angle bit3		
19		Y Angle bit4		
20		Y Angle bit5		
21		Y Angle bit6		
22		Y Angle bit7		
BYTE 4	23	Y Angle bit8	<b>Y ANGLE NEGATIVE SIGN FLAG (2 bits)</b> 01 = Negative Angle	
	24	Y Angle bit9 MSB		
	25	Y Positive Flag LSB	<b>SLAVE Z ANGLE (10 bits)</b> 0 to 1000, 0.1° per bit	
	26	Y Positive Flag MSB		
	27	Y Negative Flag LSB	<b>Z ANGLE POS SIGN FLAG (2 bits)</b> 01 = Positive Angle	
	28	Y Negative Flag MSB		
	BYTE 5	29	Z Angle bit0 LSB	<b>Z ANGLE NEGATIVE SIGN FLAG (2 bits)</b> 01 = Negative Angle
		30	Z Angle bit1	
31		Z Angle bit2		
32		Z Angle bit3		
33		Z Angle bit4		
34		Z Angle bit5		
35		Z Angle bit6		
36		Z Angle bit7		
BYTE 6	37	Z Angle bit8	<b>Z ANGLE POS SIGN FLAG (2 bits)</b> 01 = Positive Angle	
	38	Z Angle bit9 MSB		
	39	Z Positive Flag LSB	<b>Z ANGLE NEGATIVE SIGN FLAG (2 bits)</b> 01 = Negative Angle	
	40	Z Positive Flag MSB		
	BYTE 7	41	Z Negative Flag LSB	unused
		42	Z Negative Flag MSB	
		43	unused	
		44	unused	
45		unused		
46		unused		
47		unused		
48		unused		
BYTE 8	49	unused	unused	
	50	unused		
	51	unused		
	52	unused		
	53	unused		
	54	unused		
	55	unused		
	56	unused		
57	unused	unused		
58	unused			
59	unused			
60	unused			
61	unused			
62	unused			
63	unused			
64	unused			



**J1939 Dual 3 Axis Incline Sensor - SETTING Message 65290 (DINC)**

**MESSAGE PARAMETERS**

This message is transmitted by the controller

**PGN: 65290 (FF0A hex)**

Transmission Repetition Rate	n/a
Data Length	n/a
Data Page	0
PDU Format	255 (FF hex)
PDU Specific	10 (0A hex)
Priority	7
Source Address	249 (F9 hex)
Communication Bit Rate	250 K bits/sec

**SOURCE ADDRESS SELECTION**

Value (ohms)	Address	PGN
No Resistor	219	65290
590 (id-tag 1)	220	65291
976 (id-tag 2)	221	65292
1500 (id-tag 3)	222	65293
2260 (id-tag 4)	223	65294
3400 (id-tag 5)	224	65295
5360 (id-tag 6)	225	65296
9530 (id-tag 7)	226	65297

NOTE: SOURCE ADDRESS AND PRIORITY CHANGED 08 NOV 2011

**8 BYTE / 64 BIT DATA FIELD BIT POSITIONS**

BYTE	BIT	BIT FUNCTION	FIELD DESCRIPTION	
BYTE 1	1	SENS Setting bit0 LSB	<b>SENSITIVITY SETTING (3 bits)</b> <i>Field contains value of current setting</i> 0 = most sensitive, 7 = most sluggish (default 4)	
	2	SENS Setting bit1		
	3	SENS Setting bit2 MSB		
	4	reserved	<b>LED WEIGHT SETTING (3 bits)</b> <i>Field contains value of current setting</i> Degrees per LED indicator, 1 to 7 (default 1)	
	5	reserved		
	6	Direction Setting LSB		
	7	Direction Setting LSB		
	8	Direction Setting MSB		
BYTE 2	9	CAL Master LSB		<b>CALIBRATE/HOME MASTER FLAG (2 bits)</b> 01 = Calibrate/Home the Master sensor
	10	CAL Master MSB		
	11	CAL Slave LSB		<b>CALIBRATE/HOME SLAVE FLAG (2 bits)</b> 01 = Calibrate/Home the Slave sensor
	12	CAL Slave MSB		
	13	unused		
	14	unused		
	15	unused		
	16	unused		
BYTE 3	17	unused		
	18	unused		
	19	unused		
	20	unused		
	21	unused		
	22	unused		
	23	unused		
	24	unused		
BYTE 4	25	unused		
	26	unused		
	27	unused		
	28	unused		
	29	unused		
	30	unused		
	31	unused		
	32	unused		
BYTE 5	33	unused		
	34	unused		
	35	unused		
	36	unused		
	37	unused		
	38	unused		
	39	unused		
	40	unused		
BYTE 6	41	unused		
	42	unused		
	43	unused		
	44	unused		
	45	unused		
	46	unused		
	47	unused		
	48	unused		
BYTE 7	49	unused		
	50	unused		
	51	unused		
	52	unused		
	53	unused		
	54	unused		
	55	unused		
	56	unused		
BYTE 8	57	unused		
	58	unused		
	59	unused		
	60	unused		
	61	unused		
	62	unused		
	63	unused		
	64	unused		

**NOTE: Set reserved and unused bits to all 0's or all 1's**

