

# DSI3 Protocol Decoding

## -Seskion GmbH-

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# DSI3 Protocol Decoding

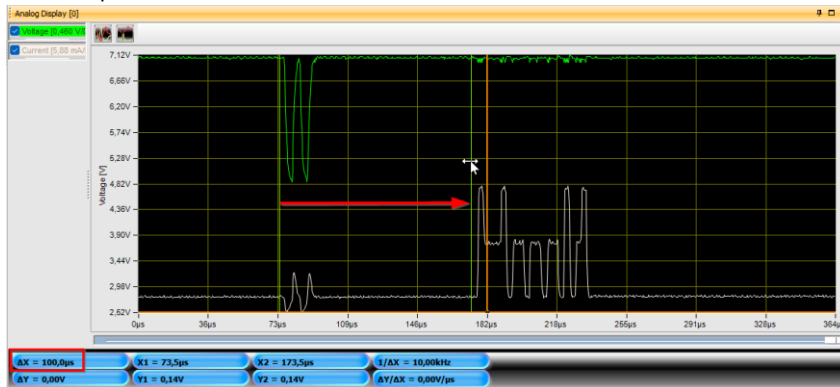
## Adjustments for all Modes:

Adjustments in System Configuration:

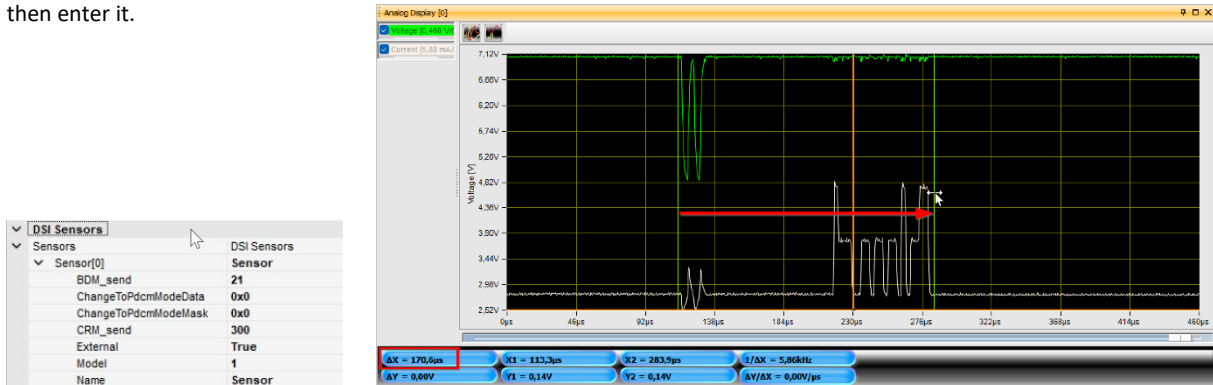
1. **CurrentThresholdHigh**: *CurrentHigh* from the data sheet and half of it.
2. **CurrentThresholdLow**: *CurrentLow* from the data sheet and half of it.
3. **ManchesterDatarate** setting. Information from the sensor data sheet (usual values: 125, 189, 250, 333).
4. **MLSCDatarateCrm**: From the sensor data sheet.
5. **MLSCDataratePDCM**: From the sensor data sheet.
6. **SupplyVoltageTriggerLevel**: Not in the data sheet, value must be at least 1V below *SupplyVoltageLow*.
7. **VoltageThreshold**: Probably not in the data sheet, must be in the middle of *SupplyVoltageHigh* and *SupplyVoltageLow*

System Configuration	
ActionStart	5
CrcPolynom	47
CurrentThresholdHigh	24
CurrentThresholdLow	12
IdleVoltageThreshold	6,5
ManchesterDatarate	125
ManchesterStartDelay	4
MLSCDatarateCrm	197
MLSCDatarateEncoderDevic	0
MLSCDataratePdcn	335
Mode	Intern
Recovery	0
SensorIdleCurrent	6
SensorSendCurrent0	12
SensorSendCurrent1	12
StreamUpdateMode	sync
SupplyVoltageTriggerLevel	4
VoltageThreshold	6

8. **SlotStart**: Measurable in the Analog Display -> Set cursor X1 at the start of the sync pulse and X2 shortly before the start of the response to measure the Delta and then enter it



9. **SlotEnd**: Measurable in the Analog Display -> Set cursor X2 to the end of the response in order to measure the delta and then enter it.



DSI Sensors	
Sensors	DSI Sensors
Sensor[0]	Sensor
BDM_send	Z1
ChangeToPdcnModeData	0x0
ChangeToPdcnModeMask	0x0
CRM_send	300
External	True
Model	1
Name	Sensor
PhysicalAddress	2
RegisterFile	Byte[] Array
SensorInitialMode	CRM
Slots	
Slot[0]	Slot
DataBits	10
KacBits	2
Name	Slot
PDCMFrameLength	0
Sid	1
SidBits	4
SlotEnd	170
SlotStart	100
Source	1
StatusBits	4

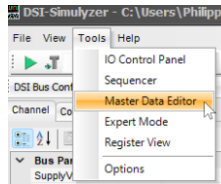
10. **PDCM**: Insert data from the data sheet here:

System Configuration - PDCM	
BusPeriodPdcn	500
DataBits	10
KacBits	2
PDCMFrameLength	28
SidBits	4
StatusBits	4

# DSI3 Protocol Decoding

## Further Adjustments only for ECU Mode

Adjustments in Master Data Editor:



Create the Init Sequence from the data sheet. And generate the PDCM pulse:

No.	Command	Address	Cmd	Ext Data	Data	Crc	Value	BECount	Comment
0	DELAY						1000		
1	CR_CRC	0x0	0x8	0x11	0x1	0x7E	0x811017E	32	Write to RADDR Register: Addr
2	CR_CRC	0x1	0x8	0x11	0x0	0xC1	0x101100C1	32	Read RADDR Register: 0x01
3	CR_CRC	0x1	0x8	0x13	0x0	0x4C	0x1813004C	32	Write to CRM_CFG Register: 2
4	CR_CRC	0x1	0x8	0x12	0x0	0x05	0x10120005	32	Read BDM_CFG and CRM_CFG
5	CR_CRC	0x1	0x8	0x0	0x0	0x0	0x10000000	32	Read ICTYPE AND ICMFG ID Re
6	CR_CRC	0x1	0x8	0x2	0x0	0xF0	0x100200F0	32	Read ICREVID Register: 0x10
7	CR_CRC	0x1	0x8	0x9	0x0	0xB1	0x100900B1	32	Read PH Register
8	CR_CRC	0x1	0x8	0xA	0x0	0x75	0x100A0075	32	Read SN0 and SN1 Register
9	CR_CRC	0x1	0x8	0xC	0x0	0x5D	0x100C005D	32	Read SN2 and SN3 Register
10	CR_CRC	0x1	0x8	0x10	0x0	0x28	0x10100028	32	Read DSRev Register: 0x01
11	CR_CRC	0x1	0x8	0x14	0x0	0xF0	0x101400F0	32	Read PDCM_CFG Register: 0x1
12	CR_CRC	0x1	0x8	0x16	0x0	0x70	0x18160070	32	Write to CHPTIME Register: 0x
13	CR_CRC	0x1	0x8	0x16	0x0	0x0	0x10160000	32	Read CHPTIME and PDCM_PER
14	CR_CRC	0x1	0x8	0x19	0x0	0x64	0x18190064	32	Write to PDCM_RSPST_L Regis
15	CR_CRC	0x1	0x8	0x19	0x0	0x44	0x10190044	32	Read PDCM_RSPST_L and PDC
16	CR_CRC	0x1	0x8	0x1B	0x0	0x4E	0x181BA04E	32	Write to PDCM_CMD_B_L Regis
17	CR_CRC	0x1	0x8	0x1C	0x1	0x27	0x181C0127	32	Write to PDCM_CMD_B_H Regis
18	CR_CRC	0x1	0x8	0x1B	0x0	0xB9	0x101B00B9	32	Read PDCM_CMD_B_L and PDI
19	CR_CRC	0x1	0x8	0x1D	0x1	0xCE	0x181D01CE	32	Write to SOURCED Register: A
20	CR_CRC	0x1	0x8	0x1D	0x0	0x91	0x101D0091	32	Read SOURCED and BUS_SW
21	CR_CRC	0x1	0x8	0x21	0x0	0xAE	0x102100AE	32	Read DEVSTAT and DEVSTAT2
22	CR_CRC	0x1	0x8	0x25	0x0	0x7B	0x1025007B	32	Read C_CRMCRCPLY and R_Cr
23	CR_CRC	0x1	0x8	0x27	0x0	0x66	0x10270066	32	Read PDCMCRPLY Register:
24	CR_CRC	0x1	0x8	0x30	0x0	0x82	0x10300082	32	Read ACC_FCTCFG and ACCS
25	CR_CRC	0x1	0x8	0x32	0x0	0x7A	0x1832007A	32	Write to ACC_CFG Register: 3
26	CR_CRC	0x1	0x8	0x32	0x0	0x9F	0x1032009F	32	Read ACC_CFG Register
27	CR_CRC	0x1	0x8	0x35	0x0	0x5E	0x1035005E	32	Read ACC_STAT Register
28	CR_CRC	0x1	0x8	0x33	0x0	0x76	0x10330076	32	Read Acceleration (ACC_DATA

## Further Adjustments only for Sensor Mode

Adjustments in System Configuration:

11. **SensorIdleCurrent**: From the sensor data sheet.
12. **SensorSendCurrent0**: From the sensor data sheet.
13. **SensorSendCurrent1**: From the sensor data sheet.

DSI Sensors	
Sensors	DSI Sensors
Sensor[0]	Sensor
BDM_send	21
ChangeToPdcmlMox	0x0
ChangeToPdcmlMox	0x0
CRM_send	300
External	True
Model	1
Name	Sensor
PhysicalAddress	2
RegisterFile	Byte[] Array
SensorInitialMode	CRM
Slots	

System Configuration	
ActionStart	5
CrcPolynom	47
CurrentThresholdHigh	24
CurrentThresholdLow	12
IdleVoltageThreshold	6,5
ManchesterDataRate	125
ManchesterStartDelay	4
MLSCDataRateCrm	197
MLSCDataRateEncoderDevic	0
MLSCDataRatePdcml	335
Mode	Intern
Recovery	0
SensorIdleCurrent	6
SensorSendCurrent0	12
SensorSendCurrent1	12
StreamUpdateMode	sync
SupplyVoltageTriggerLevel	4
VoltageThreshold	6

14. **Model**: Insert the Sensor Model Number that you received from the Sesktion GmbH: