

SESKION PSI5 传感器编程 小桃樹 传感器具有诊断模式。该模式由传感器制造商定义,未标准化。如果传感器设置为诊断模式,它将提供来自制造商 定义的寻址范围的数据。诊断模式由ECU发送给传感器的特定数据序列激活。 传感器的诊断模式是一个非常具体的部分,只有具备适当知识的用户才能使用 Simulyzer诊断模式允许: 以下功能范围是可用的: 将传感器置于诊断模式, 开启诊断模式 向传感器发送命令 双向通讯 读取传感器的存储单元 内存数据 覆盖存储单元 诊断内存配置. WHAT IS 诊断模式的准备 为了能够使用Simulyzer软件,在连接Simulyzer和传感器之后,必须在开始时创建一个新项目。要做到这一点,请使 用菜单组<u>文件</u>和命令<u>新建和新建项目。</u>您的PSI5传感器有哪个版本,您可以从相应传感器的手册中阅读功能。本 例使用MMA52xxKW系列NXP传感器,兼容PSI5-P10P-500-3L PSI5-Simulyzer **PSI5 Inertial Sensor** ile View Tools Help The MMA52xxKW family, a SafeAssure solution, includes the AKLV27 and PSI5 PSI5-S10P-500 4H Version 1.3 compatible overdamped X-axis satellite accelerometers. Open -PSI5-S10P-500_3L Save PSI5-P20CRC-500 3H Features Save as PSI5-P20CRC-500_2L Save Template ±60g to ±480g Full-Scale Range PSI5-P16CRC-500 3H Selectable 400 Hz, 3 Pole, or 4 pole Low-Pass Filter Single Pole High Pass Filter with Fast Startup and Output Rate Limiting PSI5-P16CRC-500_2L Import PSI5-P10P-500 4H Export SI5-P10P-500_3L PSI5 Version 1.3 Compatible PSI5-P10P-500 2L PSI5-P10P-500/3L Compatible Programmable Time Slots with 0.5 µs Resolution Exit PSI5-P10P-250_1L PSI5-P10CRC-500 2L Selectable Baud Rate: 125 kBaud or 190.5 kBaud PSI5-A8P-250_1L Selectable Data Length: 8 or 10 bits PSI5-A16CRC-500_1L Selectable Error Detection: Even Parity, or 3-bit CRC Optional Daisy Chain with External Low Side Switch PSI5-A10P-250_1L PSI5-A10CRC-250_1L Two-Wire Programming Mode 接下来,首先选择ECU模式 ,然后选择绿色箭头和Power,开始测量。 -Tools Held ile View Tools Help ile View Tools Help Passive ► .T Stream Star ø ECU - Powe J ECU Power 出 Stream Start Passive ECU 63 Sensor Simulatio Run ⊳ Run 您现在可以看到,在右侧,带有时间戳的单个数据以表格形式列出. in the second THE REAL PROPERTY OF THE PROPE Sigt Error Sigt 0 8041904 8047004 8047002 8047002 8047002 8047002 804702 804702 804702 804702 804702 804702 804702 804602



V	CMD	644-	FC	Command	Regis-	Data		Response (UK)	"	eshouse (E	1101)	
	Туре	SAG	FC	Command	Address	Field	RC	RD1	RD0	RC	RD1	RD0	
S0	Short		100	Execute Programming of NVM	N/A	N/A	ок	0x2AA	N/A	Error	ErrN	N/A	
S1	Short]	101	Invalid Command	N/A	N/A		No Respo	nse		No Respor	ise	
S2	Short]	110	Invalid Command	N/A	N/A		No Respo	nse		ise		
S3	Short	1	111	Enter Programming Mode	N/A	A N/A OK 0x0CA N/A			N/A	No Response			
LR	Long	001	010	Read nibble located at address RA5:RA0	Varies	Varies	ок	RData	RData+1	Error	ErrN	0x000	
LW	Long	1	011	Write nibble to register RA5:RA0	Varies	Varies	ок	WData	RA5:RA0	Error	ErrN	0x000	
XLR	XLong]	000	Invalid Command	Any	Any		No Respo	nse	No Response			
XLW	XLong	1	001	Invalid Command	Any	Any		No Respo	nse		No Response		
Note:	When r	reading	the I	ast address in the data array, RD	ata+1 wi	ll alway	s returr	n 0x00.					
		K											
	Y				\		$\langle \rangle$						



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SESKION PSI5 传感器编程 打开诊断模式 PSI5-Simulyzer View Tools Help Channel 0 选择菜单组工具和命令诊断模式,然后单击要编程的所需通道上的子 Diagnostic Mode ECU Pattern Edito Channel 1 一個限 组 Init Data Editor Init Data Report Sequencer Sensor Data Gen IO Control Pane Expert Mode Sensor Test Options 浙浙小州相关 双向通信 ECU和传感器之间的通信显示为日志。菜单项Bidir Logging显示与右表中相同的时间戳和ECU模式 0x1e1 相思礼 新新小州新新 43-M3 X 要了解传感器的可编程性,必须首先了解CMD类型,无论是短类型还是长类型。FC的读写方式也很重要. 5.3.6 Programming Mode Via PSI5 Command and Response Summary Table 17. Programming Mode Via PSI5 Commands and Responses Response (Error) Regis-ter Address Response (OK) CMD Type Data Field # SAdr FC Command 相限社会 RC RD1 RD0 Execute Programming of NVM 0x2AA N/A **S**0 Short 100 N/A N/A OK S1 101 N/A Invalid Command N/A No Response Short S2 Short 110 N/A N/A No Response Invalid Command S3 Short 111 Enter Programming Mode N/A N/A 0x0CA N/A οĸ Read nibble located at address LR 010 RData+1 Varies OK RData Long Varies RA5:RA0 LW WData RA5:RA0 011 Write nibble to register RA5:RA0 Long Varies Varies OK XLR XLond 000 Invalid Command Any No Response Any -the there XLong XLW 001 Invalid Command Any Any No Response Note: When reading the last address in the data array, RData+1 will always return 0x00. * THE KENTE

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以下是一个小的解释,至少对于这个传感器来说,短帧或长帧命令看起来是什么样子的:

5.3.2.1 Short Frame Command and Response Format

Short frames are the simplest type of command message. No data is transmitted in a short frame command. Only specific instructions are performed in response to short frame commands. The Short Frame format is shown in Figure 43. Short Frame commands and responses are defined in Section 5.3.6, Table 18.

X.V	Start Bits				Sensor Address				Function Code				CRC			Response		
\sim	S2	S1	S0	Sy	SA0	SA1	SA2	Sy	FC0	FC1	FC2	Sy	C2	C1	C0	RC	RD1	
	0	1	0	1	1	0	0	1	0	0	1	1	0	0	0	\$1E2	\$3FF	

Figure 43. Programming Mode Via PSI5 Short Command and Response Format

5.3.2.2 Long Frame Command and Response Format

Long frames allow for the transmission of data nibbles for register writes. The device can provide register data in response to a read or write request. The Long Frame format is shown in Figure 44. Long Frame commands and responses are defined in Section 5.3.6.

Sta	art B	lits		A	Senso ddres	r is		Fund	tion	Code	$\sum_{i=1}^{n}$	T	F	Regist	er A	ddres	s				1	Data				CF	RC				Response	e
S2	S1	S0	Sy	SA0	SA1	SA2	Sy	FC0/	FC1	FC2	Šу	RA0	RA1	RA2	Sy	RA3	RA4	RA5	Sy	D0	D1	D2	Sy	D3	C2	C1	Sy	C0	1	RC	RD1	RD0
0	1	0	1	1	0	0	1	0	1	0	1	0	0	0	1	0	0	0	1	1	1	1	1	1	0	0	1	0	t	\$1E2	\$3FF	\$3FF

如果您现在再次查看手册,那么您可以找到一个包含数据的表,其中显示了位函数的读写。使用 Nibble Addryo,您可以在配置模式中获得相应的功能。Type指示您在函数中是否具有读写权限.

3 **Functional Description** User Accessible Data Array 3.1

A user accessible data array allows for each device to be customized. The array consists of an OTP factory programmable block, an OTP user programmable block, and read only registers for device status. The OTP blocks incorporate independent CRC circuitry for fault detection (reference Section 3.2). Portions of the factory programmable array are reserved for factory-programmed trim values. The user accessible data is shown in Table 2.

Table	2. User A	ccess	ible Data										
Byte		Nibble	145.	Bit Fu	inction		Nibble	×.	Bit Fu	inction			~
(XLong Msg)	Register	(Long Msg)	7	6	5	4	(Long Msg)	3	2	1	0	Туре	
\$00	SN0	\$01	SN[7]	SN[6]	SN[5]	SN[4]	\$00	SN[3]	SN[2]	SN[1]	SN[0]		. 117
\$01	SN1	\$03	SN[15]	SN[14]	SN[13]	SN[12]	\$02	SN[11]	SN[10]	SN[9]	SN[8]		
\$02	SN2	\$05	SN[23]	SN[22]	SN[21]	SN[20]	\$04	SN[19]	SN[18]	SN[17]	SN[16]	F, R	57
\$03	SN3	\$07	SN[31]	SN[30]	SN[29]	SN[28]	\$0 6	SN[27]	SN[26]	SN[25]	SN[24]	X O	
\$04	DEVCFG1	\$09	0	0	1	- 0	\$08	0	RNG[2]	RNG[1]	RNG[0]	1	
\$05	DEVCFG2	\$0B	LOCK_U	PCM	SYNC_PD	LATENCY	\$0A	DATASIZE	BLANKTIME	P_CRC	BAUD		
\$06	DEVCFG3	\$0D	TRANS_MD[1]	TRANS_MD[0]	LPF[1]	LPF[0]	\$0C	TIMESLOTB[9]	TIMESLOTB[8]	TIMESLOTA[9]	TIMESLOTA[8]		
\$07	DEVCFG4	\$0F	TIMESLOTA[7]	TIMESLOTA[6]	TIMESLOTA[5]	TIMESLOTA[4]	\$0E	TIMESLOTA[3]	TIMESLOTA[2]	TIMESLOTA[1]	TIMESLOTA[0]		
\$08	DEVCFG5	\$11	TIMESLOTB[7]	TIMESLOTB[6]	TIMESLOTB[5]	TIMESLOTB[4]	\$10	TIMESLOTB[3]	TIMESLOTB[2]	TIMESLOTB[1]	TIMESLOTB[0]	U, R	
\$09	DEVCFG6	\$13	INIT2_EXT	ASYNC	U_DIR[1]	U_DIR[0]	\$12	U_REV[3]	U_REV[2]	U_REV[1]	U_REV[0]		
\$0A	DEVCFG7	\$15	MONTH[3]	MONTH[2]	MONTH[1]	MONTH[0]	\$14	YEAR[3]	YEAR[2]	YEAR[1]	YEAR[0]		
\$0B	DEVCFG8	\$17	CRC_U[2]	CRC_U[1]	CRC_U[0]	DAY[4]	\$16	DAY[3]	DAY[2]	DAY[1]	DAY[0]		
\$0C	SC	\$19	0	TM_B	RESERVED	IDEN_B	\$18	OC_INIT_B	IDEF_B	OFF_B	TEMPF_B	R	
Type co F: F U: U R: F	des reescale pro lser program Readable reg	ogramme nmable (jister via	ed OTP location OTP location via PSI5	n a PSI5			×	NIT W					
	1V									AND			́р́

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R: Readable register via PSI5

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PSI5 传感器编程

大地 在诊断模式中,可以在配置中设置长帧命令。它的工作原理与使用复制/粘贴的ECU模式编辑器中的完全相同。 使用add可以添加新命令,也可以使用delete删除它。 如果要保存命令,可以将其命名为"Read_0",然后使用"保存命令"进行保存。



要启动它,您必须首先选择ECU模式,然后再次选择绿色箭头和电源。 现在,您可以在右侧列的BidirLogging中找到各个命令。通过单击它们,将运行这些命令。使用清除,您可以删除 左侧的日志记录。

Timestamp[µ	ECU pattern	Туре	RC[0]	RD1[0]	RD2[0]	RC[1]	RD1[1]	
913730	0x2cf9	short	0x1e1	0xca	0×0	0x0	0×0	Clear
15651146	0xb2a3222	long	0x1e1	0x2f	0x0	0x0	0x0	Read 0
15682646	0xb2ab22e	long	0x1e1	0x0	0x0	0x0	0x0	Read 1
15/14116	Oxb3ab3t/	long	0x1e1	Uxt	Uxa	0x0	0x0	neau_1
09220221	0x02a022e	long	0x1e1	0.00	0x0	0.0	0x0	Read_2
98260731	Dvb2ab222	long	Ov 1e 1	0x2l	0~0	0×0	0x0	Read_4
98292201	Oxb2ab222e	long	0v1e1	Ovf	0xa	0x0	0x0	
98323731	0xb2ab22e	long	0x1e1	Oxf	0x0	0x0	0x0	
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$K \leq T$								
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						n >		
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为了更好地了解传感器数据,您可以将左侧总线配置中的Syncron Mode设置为False。因此,Syncron脉冲不会 显示在表中. 6%

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	Baudrate 125	
	BaudratePosDeviatic 5	
	DaisyChainMode False DataTriggerLevel 25	
	DataTriggerLevelOff 13 FrameLostDetect False	
	IdleCurrentTracking False	
	LineCapacity Off	
	Maxim Milleviation 5 MessageToMessage 500	
-^	QuiescentCurrentSe 5000 SupplyVoltage 6000	
X	SyncronMode False SyncTriggerLevel 6500	
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n N	Node设言	置メ	ŋFalse,	因此	t, sy	(ncron)	脉冲不	〈 会		THE REAL	1
	Sensor Data								4 0		
	Time [µsec]	Ch	Data	Slot	Error	Parity/C	dataRegA	dataRegB	fctrl :		
- 4	19883822	0	0x43	0x0	0x0	1	0x43			-	
1	19883822	0			Sig1	0x43		(
Х	19883322	0	0xa2	0x0	0x0	1	0xa2				
1	19883322	0			Sig1	0xa2					
	19882822	0	0x1e1	0x0	0x0	1	0x1e1				
	19882191	0	0xb2aa226	0	0x0						
	16958037	0	0x0	0x0	0x0	0 /	0x0				
	16958037	0			Sig1	0x0	ベン				
	16957537	0	0xf	0x0	0x0	0	0xf				
	16957537	0			Sig1	0xf	5				
	16957036	0	0x1e1	0x0	0x0	11/	0x1e1				
	16956405	0	0xb2ab22e	0	0x0	-					
	16926537	0	0xa	0x0	0x0	0	0xa				
	16926537	0			Sig1	0xa					
	16926037	0	0xf	0×0	0x0	0	0xf				
	16926037	0		1	Sig1	0xf					
	16925536	0	0x1e1	0x0	0x0	1	0x1e1				

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