ZOTYE

(In-vehicle Controller Area Network)

B17 2.0T 旗舰DCT Communication Message List

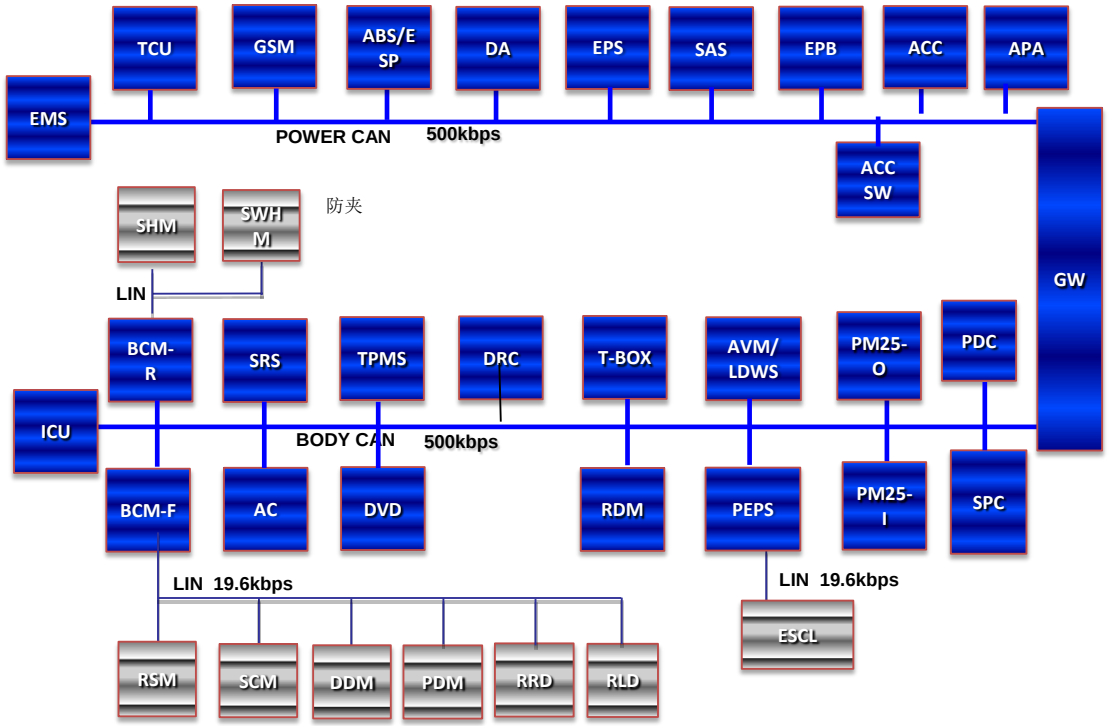
V0.1

Author: Supplier Confirmation: Approved:

B17 CAN Message List

Date	Revision	Message	Author	Module	Comments
2015/11/3	V0.1	All	ZXM	ALL	Draft-use to discuss with every module supplier
2015/11/30	V0.1	EMS4	ZXM	EMS	Add 'EMS_CruiseCtrlSt' in EMS4
2015/11/30	V0.1	ESP3	ZXM	ESP	Modify 'HDC_WL' in ESP3
2015/12/2	V0.1	DVD AC	ZXM	DVD AC	Modify DVD & AC commutative signals
2015/12/4	V0.1	EPS	ZXM	EPS	Modify EPS 'Working Current'
2015/12/4	V0.1	ESP5	ZXM	ESP	Add ESP5 Message
2015/12/7	V0.1	DVD AC BCMR	ZXM	DVD AC BCMR	Modify 'SeatHeating'
2015/12/8	V0.1	DVD	ZXM	DVD	Delete DVD interrelated alarm signals。 SAS "SAS_SteeringAngle"isn't received by DVD ICU radar signals aren't received by DVD AC status signals aren't received by DVD PDC signals isn't received by DVD
2015/12/8	V0.1	EMS TCU1	ZXM	EMS TCU	Delete 'Working Current、Fan Gear Status' for EMS Modify EMS3"Engine Running Status For CVT " define Add STST signals comment ESP4 isn't received by EMS ABS1 "ESC_AutoHoldActive" isn't received by EMS AC "Outside Temperature"isn't received by EMS ICU"NeutralGearSwitchValidData""ReverseGearSwitchValidData" aren't received by EMS Modify TCU1 'OpenPowertrain_TCU' define
2015/12/9	V0.1	DVD	ZXM	DVD	Add 'TPMS_ResetReq' in DVD1
2015/12/11	V0.1	DVD	ZXM	ESP	Delete 'Engine Running Status' for ESP
2015/12/11	V0.1	BCM	ZXM	BCM	Add 'Sunroofstatus'
2015/12/11	V0.1	DVD	ZXM	DVD	Add'DVD5_KeyAC_Select_Uint' for DVD
2015/12/14	V0.1	BCM	ZXM	BCM	Add'Vehicle Tracking、BCM_Fault' for BCM
2015/12/15	V0.1	DVD	ZXM	DVD	SRS"AirBagFailSts\CrashOutputSts" are received by DVD
2015/12/17	V0.1	DVD	ZXM	DVD	Add control AC signals。
2015/12/17	V0.1	DVD	ZXM	DVD	Add control ICU navigation signals。
2015/12/21	V0.1	DVD	ZXM	DVD	Modify DVD "TPMSResetReq" Position。
2015/12/29	V0.1	ESP5	ZXM	ESP	Modify ESP5 cycle。
2016/1/18	V0.1	PDC	ZXM	PDC	Modify PDC cycle。
2016/1/21	V0.1	SWACC ACC	ZXM	SWACC ACC	Add SWACC ACC
2016/2/25	V0.1	BCMR ICU	ZXJ	BCMR ICU	Add 'RollingCounterBCMR' in BCMR, Add 'RollingCounterICU' in ICU
2016/3/7	V0.1	AC	ZXJ	AC	AC "Outside Temperature"is received by EMS
2016/3/8	V0.1	DVD	ZXJ	DVD	Add AC Voice control signals
2016/3/10	V0.1	EMS11	ZXJ	EMS	Add EMS11 message,move the signal of "ACC_ECGPOvrd,EMS_CruiseCtrlSt " from EMS4 to EMS11
2016/3/30	V0.1	DVD1	ZXJ	DVD	Add "PCW_ON_OFF"， "AEB_ON_OFF" in DVD1 for ACC
2016/3/30	V0.1	ESP7,ESP8,DA1,DA2	ZXJ	ESP,DA	Add ESP7,ESP8,DA1,DA2 messages for Drive Assist @BOTCH
2016/4/7	V0.1	ABS1 ESP1	ZXJ	ABS	ADD "ESC_AutoHoldSwitchLamp" in ABS1
2016/4/20	V0.1	AC3	ZXJ	AC,BCM	Add AC3 message,move the signal of "AC_SeatHeatCom " from AC1 to AC3
2016/4/20	V0.1	DVD1	ZXJ	DVD,ACC	Delete "PCW_ON_OFF"， "AEB_ON_OFF" in DVD1
2016/4/20	V0.1	ACC1	ZXJ	ACC,EMS,ICU	Modify ACC1 cycle 20ms⇒50ms
2016/4/29	V0.1	DVD5	ZXJ	DVD，AC	Modify the signal of Voice ZoneState@DVD5
2016/4/29	V0.1	ACCSW	ZXJ	ACC	Modify the signal of ACC+/-
2016/4/29	V0.1	CCP	ZXJ	CCP,AVM,EMS,ESP	Add CCP message
2016/4/29	V0.1	DVD1	ZXJ	DVD,CCP	move the signal of TPMSResetReq from DVD1 to CCP
2016/5/4	V0.1	DVD6,BCM-FC,BCM-RC	ZXJ	DVD,BCM	Add DVD6,BCM-FC,BCM-RC message for my car configuration
2016/5/4	V0.1	EMS4	ZXJ	EMS,ESP	Add signal EMS_StopStartStatus,EMS_StopStartStatusVaild
2016/5/4	V0.1	TCU1	ZXJ	EMS,TCU	St_gearLeverPos 0x0E：unknown

Terms		Description	
APA	:	Automatic Parking Assist	自动停车辅助
EMS	:	Engine Management System	发动机ECU
ABS	:	Anti-Lock Braking System	ABS
SAS	:	Steering Angle Sensor	转角传感器
ACC	:	Automatic Cruising Control	自适应巡航
TCU	:	Transmission Control Unit	TCU
EPB	:	Electrical Park Brake	EPB
EPS	:	Electric Power Steering	电动助力转向
ESP	:	Electronic Stability Program	ESP
SWACC	:	Switch For ACC	ACC开关
GSM	:	Gear Shift Module	换挡机构
DA	:	Drive Assist	驾驶辅助
GW	:	Gate Way	
ICU	:	Instrument Cluster Unit	仪表
BCM-F	:	Body Control Module Front	车身控制模块前
BCM-R	:	Body Control Module Rear	车身控制模块后
SRS	:	Supplemental Restraint System	气囊
AC	:	Air condication System	空调控制器
TPMS	:	Tire Pressure Monitor System	胎压
DRC	:	Dynamic Rear Camera	动态摄像头
DVD	:	Digital Versatile Disc	DVD
RDM	:	Rear Door Module	后背门模块
PM25-I	:	Particulate Matter 2.5 In Vehicle	PM2.5
PM25-O	:	Particulate Matter 2.5 Out Vehicle	
PEPS	:	Passive Entry Passive Start	无钥匙
AVM	:	Around View Monitor	全景
LDWS	:	Line Departure Warning System	车道偏移
T-BOX	:	Telematics Box	T-BOX
SPC	:	Switch Panel Control	空调后面板
PDC	:	Parking Distance Control	盲区



SHM	:	Seat Heating Module
SWHM	:	Steering Wheel Heating Module
RSM	:	Rain Sun Module
SCM	:	Sunroof Control Module
DDM	:	Driver Door Module
PDM	:	Passenger Door Module
RRD	:	Rear Right Door
RLD	:	Rear Left Door
ESCL	:	Electric Steering Column Lock

CAN Message bit definition:

This document follows the 64 bits convention as specified in CAN 2.0 specification as follows:

	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	7	6	5	4	3	2	1	0
Byte 1	15	14	13	12	11	10	9	8
Byte 2	23	22	21	20	19	18	17	16
Byte 3	31	30	29	28	27	26	25	24
Byte 4	39	38	37	36	35	34	33	32
Byte 5	47	46	45	44	43	42	41	40
Byte 6	55	54	53	52	51	50	49	48
Byte 7	63	62	61	60	59	58	57	56

To access data elements within the 64 data bits field, *Motorola Forward lsb* convention is used,

I.e.
If a data element occupies all of byte 2 and 3 , then
- the start bit at 24
- bit length = 16

Following convention also used to define a data element:

Data name (Start bit position, Bit length)

Note: Throughout this document, the "Start bit position" also refers to as "least significant bit (lsb)".

B17 CAN Message List

Transmission speed = 500K bits/sec

ID	Transmitter	Period (ms)	Length	Description	Bit rate per second
POWER CAN					
$FB	EMS1	10	64		11,100
$101	EMS2	10	64		11,100
$278	EMS3	10	64		11,100
$281	EMS4	100	64		1,110
$446	EMS5		64		
$410	EMS6		64		
$47C	EMS7		64		
$4B1	EMS8		64		
$4E7	EMS9		64		
$28A	EMS11	100	64		1,110
$1A0	TCU1	10	64		11,100
$1A1	TCU2	10	64		11,100
$1A3	GSM1	10	64		11,100
$311	ABS1 ESP1	20	64		5,550
$2EA	ABS2 ESP2	20	64		5,550
$211	ESP3	10	64		11,100
$213	ESP4	20	64		5,550
$214	ESP6	20	64		5,550
$215	ESP7	20	64		5,550
$216	ESP8	20	64		5,550
$250	DA1	20	64		5,550
$251	DA2	20	64		5,550
$0C4	SAS	10	64		11,100
$300	APA	20	64		5,550
$3E5	SWACC	50	64		2,220
$225	ACC1	50	64		2,220
$230	EPS	10	64		11,100
$320	EPB	20	64		5,550

Total bit/sec	162,060
Total Bus load Percentage	32.41%

B17 CAN Message List

Transmission speed = 500K bits/sec

ID	Transmitter	Period (ms)	Length	Description	Bit rate per second
BODY CAN					
$58B	PEPS1	100	64		1,110
$51D	PEPS3		64		
$5BE	PEPS4		64		
$588	PEPS5		64		
$553	PEPS6		64		
$5F4	PEPS7		64		
$5F5	PEPS8		64		
$5F6	PEPS9	100	64		1,110
$31D	SRS	500	64		222
$5FA	AC-SPC	100	64		1,110
$435	AC	100	64		1,110
$5EA	AC2	500	64		222
$437	AC3	100	64		1,110
$428	AVM	100	64		1,110
$525	PDC	50	64		2,220
$5A0	DVD1	100	64		1,110
$5A1	DVD2	100	64		1,110
$5A2	DVD3		64		
$5A5	DVD4	100	64		1,110
$5EB	DVD5		64		
$5EC	DVD6		64		
$540	TPMS	500	64		222
$392	BCM-F	20	64		5,550
$393	BCM-R	20	64		5,550
$394	BCM-FC	500	64		222
$395	BCM-RC	500	64		222
$431	ICU	20	64		5,550
$5B0	RDM	200	64		555
$4D1	T-BOX2		64		
$4D2	T-BOX3		64		
$5FB	PM25-I	500	64		222
$5FC	PM25-O	500	64		222
$455	CCP	20	64		5,550

Total bit/sec	36,519
Total Bus load Percentage	7.30%

ID	Transmitter ECU	Period (ms)	Type	Length	Description
$281	EMS	100	P	64 bits	EMS4

SignalName	Convention	LSB	Length	Event Trans.	Conversion	Invalid	Default/Init	Nodelist																														Comment
								EMS	TCU	GSM	ABS	ESP	SAS	EPS	EPB	ACC	AWD		SRS	PEPS	DRC	AVM&LDWS	DVD	TPMS	BCM-F	BCM-R	ICU	RDM	T-BOX	PDC	AC	SPC	PM2.5-O	PM2.5-I	CCP	
Engine Coolant Temperature	(0, 8)	0	8		DataType:Num Range high:143.25 Range low:-48 Conversion:(D) * 0.75-48 Unit:℃	0xFF	0	T	R																			R		R		R							
Battery Voltage	(8, 8)	8	8		DataType:Num Range high:17.3482 Range low:0 Conversion:(D) * 0.0683 Unit:V	0xFF	0	T																				R		R		R							
Fuel Consumption Inst	(16, 8)	16	8		DataType:Num Range high:38.91 Range low:0 Conversion:(D) * 0.1532 Unit:ml/s	0xFF	0	T																				R		R									
Error:Battery Voltage	(24, 1)	24	1		0:No Error 1:Error		0	T																				R		R									
Driving Cycle	(25, 1)	25	1		0:no achieved 1:achieved		0	T																														
Error:Engine Coolant Temperature	(26, 1)	26	1		0:No Error 1:Error		0	T	R																			R		R		R							
EOBD MIL Lamp Signal	(27, 1)	27	1		0:light Off 1:light ON		0	T																				R		R									
Engine EPC Lamp Signal	(28, 1)	28	1		0:EPC light Off 1:EPC light ON		0	T																				R		R									
Warm Up Cycle	(29, 1)	29	1		0:no achieved 1:achieved		0	T																						R									
Cooling Fan Status	(30, 2)	30	2		0:Off 1:Low_Speed 2:High_Speed 3:Error		0	T																						R									

EMS_SSWarningLampSts	(32, 2)	32	2		0x0:OFF 0x1: ON 0x2: Flash		0	T	R																R								
EMS_IdleStopStatus	(34, 1)	34	1		0x0:Not in idle stop 0x1: idle stop		0	T	R										R						R								
EMS_StartStopEnable	(35, 1)	35	1		0:start stop function off 1: start stop function on		0	T	R																R							R	
RollingCounterEMS4	(36, 4)	36	4		DataType:Num Range high:15 Range low:0 Conversion:(D) Unit:			T	R																									
Target Vehicle Speed for Cruise Control	(40, 8)	40	8		Data Type:Num Range high:254 Range low:0 Unit:Km/h	0xFF	0	T																		R								
Reserved	(48, 2)	48	2				0	T																										
EMS_StopStartStatus	(50, 3)	50	3		0x0:non-start/stop mode 0x1:Engine standby 0x2:Engine Stopped 0x3:Starter restart 0x4:Engine restart 0x5:Engine Operation 0x6:Engine auto-stopping Other reserved		0	T				R			R																			000：起停功能被驾驶员禁止 001：发动机刚上电但尚未起动的状态，或发动机正在用钥匙起动的状态 010：发动机处于自动停机状态 011：自动起动中的起动机拖动过程 100：自动起动中的起动机脱离但未达到目标转速 101：发动机正常运转 110：发动机正在停机过程中(转速尚未跌落到0)
EMS_StopStartStatusVaild	(53, 1)	53	1		0x0:Not valid 0x1:Valid		0	T				R			R																		
NeutralGearSwitch	(54, 1)	54	1		0:No Neutral Gear 1:Neutral		0	T																	R								For MT StartStop vehicle
NeutralGearSwitchValidData	(55, 1)	55	1		0:Not valid 1:Valid		0	T																	R								For MT StartStop vehicle
CheckSumEMS4	(56, 8)	56	8		checksum=(byte0+byte1+byte2+byte3+byte4+byte5+byte6) XOR 0xFF		0	T	R																									

ID	Transmitter ECU	Period (ms)	Type	Length	Description
$428	AVM	100	P	64bits	AVM&LDW

SignalName	Convention	LSB	Length	Event Trans.	Conversion	Invalid	Default/Init	Nodelist																										Comment
								EMS	TCU	GSM	ABS	ESP	SAS	EPS	EPB	ACC	AWD		SRS	PEPS	AVM&LDW	DRC	DVD	TPMS	BCM-F	BCM-R	ICU	RDM	T-BOX	PDC	AC	SPC	PM2.5-O	PM2.5-I	CCP	
TriggerDVD	(0,1)	0	1		0:close AVM output 1:open AVM output		0														T		R													0:表示关闭视频输出 1：表示视频输出(同致）
AVM_Fault	(1,1)	1	1		0:No Fault 1:Fault		0														T							R							
AVM WorkStatus	(2,4)	2	4		0：No Request Display 1：AVM + Front View 2：AVM + Rear View 3: AVM + Left View 4: AVM + Right View 5: Enlarged Front View 6: Enlarged Reart View 7: Enlarged Left View 8: Enlarged Right View 9~15:Reserved		0														T		R													
LDW_SwitchStatus	(6,1)	6	1		0: Switch OFF 1: Switch On		0														T		R												R	
LDW_ErrorStatus	(7,1)	7	1		0：No Error 1：Error		0														T						R								R	
LDW_WorkStatus	(13,3)	13	3		0: wait 1: Active 2: Left Departure 3: Right Departure 4~7:Reserved		0														T						R									
LDW_AudioWarning	(12,1)	12	1		0：Inactive 1：Active		0														T						R									
SupplyFlag	(10,2)	10	2		0：TTE 1：INVO 2：foryouge 3：Reserved		2														T															0:TTE 表示同致软件; 1:INVO 表示智华软件 2：华阳（软件通智华）
AVM_CaliStatus	(8,2)	8	2		0=Not calibrate 1=Claibrating 2=Claibrate success 3=Calibrate failure		0														T															
Reserved	(56,48)	56	48				0														T														

ID	Transmitter ECU	Period (ms)	Type	Length	Description
$455	CCP	20	P	64 bits	CCP

SignalName	Convention	LSB	Length	Event Trans.	Conversion	Invalid	Default/Init	Nodelist																						Comment
								EMS	TCU	ABS	ESP	SAS	EPS	EPB	AC	SRS	PEPS	DRC	AVMLDWS	DVD\MP5	AFS	TPMS	BCM	ICU	RDM	CCP	T-BOX	PDC	DVR	
Reserved	(10, 14)	10	14																							T				
StartStopSwitch	(9, 1)	9	1		0：released 1：pressed		0	R																		T				启停开关
Reserved	(20, 5)	20	5																							T				
CCP_AVM_Skey	(18,1)	18	1		0：released 1：pressed		0												R							T				全景开关
CCP_LDWS_Skey	(19,1)	19	1		0：released 1：pressed		0												R							T				车道偏离开关
Reserved	(37,13)	37	13				0																			T				
CCP_TPMSResetReq	(36,1)	36	1		0：released 1：pressed		0				R															T				DDS+ reset request 开关 for continental
Reserved	(52,16)	52	16				0																			T				
CCP_RollingCounter	(48, 4)	48	4		DataType:Num Range high:15 Range low:0 Conversion:(D) Unit:		0																			T				
CCP_Checksum	(56, 8)	56	8		DataType:Num Range high:0xFF Range low:0 Conversion:(D) Unit:		0																			T				checksum = (Byte0+Byte1 …+ Byte6) XOR 0xFF

ID	Transmitter ECU	Period (ms)	Type	Length	Description
$3E5	SWACC	50	P	64bits	SWACC

SignalName	Convention	LSB	Length	Event Trans.	Conversion	Invalid	Default/Init	Nodelist																													Comment
								EMS	TCU	GSM	ABS	ESP	SAS	EPS	EPB	ACCSW	ACC	APA		SRS	PEPS	AVM&LDWS	DRC	DVD	TPMS	BCM-F	BCM-R	ICU	RDM	T-BOX	PDC	AC	SPC	PM2.5-O	PM2.5-I	
SWACCEnableSwitch	(0, 1)	0	1		0:prevent ACC control 1:enable ACC control		0									T	R																				enables or prevents the ACC control. ACC启用开关
SWACCSetAndMinus	(1, 1)	1	1		0:no press 1:pressed		0									T	R																				activate the ACC control, take the current vehiche speed as vSet. if constraints exist, no activation. ACC设定/速度-
SWACCResumeAndPlus	(2, 1)	2	1		0:no press 1:pressed		0									T	R																				to resume the ACC control. ACC恢复/速度+
SWACCDeactivate	(3, 1)	3	1		0:no press 1:pressed		0									T	R																				to deactivate the ACC control. ACC解除
Reserved	(4, 1)	4	2				0																														
SWACCtauGapSetPlus	(6, 1)	6	1		0:no press 1:pressed		0									T	R																				to increase the timeGapSet. ACC增加时间差设定
SWACCtauGapSetMinus	(7,1)	7	1		0:no press 1:pressed		0									T	R																				to decrease the timeGapSet. ACC减少时间差设定
Reserved	(52,44)	52	44				0									T																					
MessageCounter	(48, 4)	48	4		DataType:Num Range High:15 RangeLow:0 Conversion:(D) Unit:		0									T	R																					
CheckSum	(56,8)	56	8		DataType:Num Range high:0xFF Range low:0 Conversion: Unit:		0									T	R																				Checksum =byte[0] XOR byte[1] XOR byte[2] XOR byte[3] XOR byte[4] XOR byte[5] XOR byte[6]