Pinlayout MS 6 EVO

Analog Inputs											
ECU Pin connector >A<	ECU Pin connector >K<	For 6.1 and 6.3 Upgrade required*	For 6 CUP not available	I/O Type	hardware	pin related functions	ecu_name	rec.wire size AWG	MS 6 function recommendation	function to pin coordination	related physical input measure channel
A032				analog input	pullup 3k01, 12bit		I_A_ANA_FIXPU[1]	24	engine temperature sensor	PIN_IN_UTMOT	utmot
A033				analog input	pullup 3k01, 12bit		I_A_ANA_FIXPU[2]	24	oil temperature sensor	PIN_IN_UTOIL	utoil
A034				analog input	pullup 3k01, 12bit		I_A_ANA_FIXPU[3]	24	intake air temperature sensor	PIN_IN_UTINT	utint
A035		Upgrade required*	not avl.	analog input	pullup 3k01, 12bit		I_A_ANA_FIXPU[4]	24	fuel temperature sensor	PIN_IN_UTFUEL	utfuel
A079				analog input	no pullup, 12bit angle- or time related measurement		I_A_ANA[12]	24	rail pressure sensor	PIN_IN_UPRAIL	uprail
A080		Upgrade required*	not avl.	analog input	no pullup, 12bit angle- or time related measurement		I_A_ANA[13]	24	rail pressure sensor, bank 2	PIN_IN_UPRAIL2	uprail2
A081				analog input	no pullup, 12bit		I_A_ANA[1]	24	fuel pressure sensor	PIN_IN_UPFUEL	upfuel
A082				analog input	switch.-pullup 3k01 12bit	CWPULLUP_A082	I_A_ANA_SWPU[13]	24	oil pressure sensor	PIN_IN_UPOIL	upoil
A058				analog input	no pullup, 12bit angle- or time related measurement		I_A_ANA[14]	24	pressure upstream throttle	PIN_IN_UP21	up21
A059		Upgrade required*	not avl.	analog input	no pullup, 12bit, angle- or time related measurement, shared with digital and SENT inputs		I_A_ANA[15]	24	pressure upstream throttle, bank 2	PIN_IN_UP21_2	up21_2
A060				analog input	no pullup, 12bit angle- or time related measurement		I_A_ANA[16]	24	intake manifold pressure, mean value	PIN_IN_UP22M	up22m
A061		Upgrade required*	not avl.	analog input	no pullup, 12bit, angle- or time related measurement, shared with digital and SENT inputs		I_A_ANA[11]	24	intake manifold pressure, mean value, bank 2	PIN_IN_UP22M_2	up22m_2
A056				analog input	no pullup, 12bit		I_A_APS1	24	APS potentiometer a	fixed function to pin coordination	uaps_a
A054				analog input	no pullup, 12bit		I_A_APS2	24	APS potentiometer b	fixed function to pin coordination	uaps_b
A041				analog input	no pullup, 12bit		I_A_UTH1	24	throttle potentiometer	fixed function to pin coordination	uthrottle
A053				analog input	no pullup, 12bit		I_A_UTH2	24	backup throttle potentiometer	fixed function to pin coordination	uthrottle_b
A036			not avl.	analog input	no pullup, 12bit		I_A_UTH3	24	throttle potentiometer.bank 2	fixed function to pin coordination	uthrottle2
A037			not avl.	analog input	no pullup, 12bit		I_A_UTH4	24	backup throttle potentiometer,bank 2	fixed function to pin coordination	uthrottle2_b
	K036			analog input	pullup 3k01, 12bit		I_A_ANA_FIXPU[5]	24	map switch	PIN_IN_UMAPSW	umapsw
	K031			analog input	switch.-pullup 3k01 12bit	CWPULLUP_K031	I_A_ANA_SWPU[1]	24	pitspeed switch	PIN_IN_UPITSPEEDSW	upitspeedsw
	K019	Upgrade required*		analog input	switch.-pullup 3k01 12bit	CWPULLUP_K019	I_A_ANA_SWPU[2]	24	launch control switch	PIN_IN_ULAUNCHSW	ulaunchsw
	K015			analog input	switch.-pullup 3k01 12bit	CWPULLUP_K015	I_A_ANA_SWPU[3]	24	traction control switch	PIN_IN_UTCSW	utcsw
	K016	Upgrade required*	not avl.	analog input	switch.-pullup 3k01 12bit	CWPULLUP_K016	I_A_ANA_SWPU[4]	24	reset chassis channels switch	PIN_IN_UCHRESSW	uchressw
	K017	Upgrade required*	not avl.	analog input	switch.-pullup 3k01 12bit	CWPULLUP_K017	I_A_ANA_SWPU[5]	24	wet track switch	PIN_IN_UWETSW	uwetsw
A039				analog input	no pullup, 12bit		I_A_ANA[2]	24	gear poti	PIN_IN_UGEARP	ugearp
A055		Upgrade required*		analog input	switch.-pullup 3k01 12bit	CWPULLUP_A055	I_A_ANA_SWPU[8]	24	reverse shift switch	PIN_IN_UREVSW	ushiftrevsw
A057		Upgrade required*		analog input	switch.-pullup 3k01 12bit	CWPULLUP_A057	I_A_ANA_SWPU[9]	24	downshift switch	PIN_IN_USHIFTDNSW	ushiftdnsw
A076		Upgrade required*		analog input	switch.-pullup 3k01 12bit	CWPULLUP_A076	I_A_ANA_SWPU[10]	24	up shift switch	PIN_IN_USHIFTUPSW	ushiftupsw
A077				analog input	switch.-pullup 3k01 12bit	CWPULLUP_A077	I_A_ANA_SWPU[11]	24	gearshift sensor	PIN_IN_UGS	ugs
A078		Upgrade required*		analog input	switch.-pullup 3k01 12bit	CWPULLUP_A078	I_A_ANA_SWPU[12]	24	free measure channel A78		
A038		Upgrade required*		analog input	no pullup, 12bit		I_A_ANA[5]	24	gearbox pneumatic pressure	PIN_IN_UPGEARAIR	upgearair
	K033	Upgrade required*		analog input	no pullup, 12bit		I_A_ANA[4]	24	clutch pressure	PIN_IN_UPCLUTCH	upclutch
	K048	Upgrade required*	not avl.	analog input	no pullup, 12bit		I_A_ANA[10]	24	free measure channel K48		
A040				analog input	no pullup, 12bit		I_A_ANA[6]	24	pressure brake rear	PIN_IN_UPBRAKE_R	upbrake_r
	K020			analog input	switch.-pullup 3k01 12bit	CWPULLUP_K020	I_A_ANA_SWPU[7]	24	pressure brake front	PIN_IN_UPBRAKE_F	upbrake_f
	K018	Upgrade required*	not avl.	analog input	switch.-pullup 3k01 12bit	CWPULLUP_K018	I_A_ANA_SWPU[6]	24	damper sensor front/left	PIN_IN_UDAM_FL	udam_fl
	K032	Upgrade required*	not avl.	analog input	no pullup, 12bit		I_A_ANA_[3]	24	damper sensor front/right	PIN_IN_UDAM_FR	udam_fr
	K034	Upgrade required*	not avl.	analog input	no pullup, 12bit		I_A_ANA_[7]	24	damper sensor rear/left	PIN_IN_UDAM_RL	udam_rl
	K035	Upgrade required*	not avl.	analog input	no pullup, 12bit		I_A_ANA_[8]	24	damper sensor rear/right	PIN_IN_UDAM_RR	udam_rr
	K050	Upgrade required*	not avl.	analog input	no pullup, 12bit		I_A_ANA_[9]	24	steering angle sensor	PIN_IN_USTEER	usteer

*Required Upgrade: Software Option “Measurement Package”

	K066	Upgrade required*	not avl.	analog input	no pullup, 12bit, angle- or time related measurement, shared with digital and SENT inputs		I_F_DIG_IN[5]	24	free measure channel K066		
	K067	Upgrade required*	not avl.	analog input	no pullup, 12bit, angle- or time related measurement, shared with digital and SENT inputs		I_F_DIG_IN[6]	24	free measure channel K067		
	K083	Upgrade required*	not avl.	analog input	no pullup, 12bit, angle- or time related measurement, shared with digital and SENT inputs		I_F_DIG_IN[3]	24	free measure channel K083		
	K084	Upgrade required*	not avl.	analog input	no pullup, 12bit, angle- or time related measurement, shared with digital and SENT inputs		I_F_DIG_IN[4]	24	free measure channel K084		
	K049	Upgrade required*	not avl.	analog input	no pullup, 12bit, angle- or time related measurement, shared with digital and SENT inputs		I_F_DIG_IN[7]	24	free measure channel K049		
A083		Upgrade required*	not avl.	analog input	no pullup, 12bit, angle- or time related measurement, shared with digital and SENT inputs		I_F_DIG_IN[8]	24	free measure channel A083		
	K077			thermocouple 1+	k-type sensor		I_A_TC1A	24shield thermo	exhaust gas temperature sensor	fixed function to pin coordination	utexh
	K076			thermocouple 1-			I_A_TC1B				
	K079	Upgrade required*	not avl.	thermocouple 2+	k-type sensor		I_A_TC2A	24shield thermo	exhaust gas temperature sensor, bank 2	fixed function to pin coordination	utexh2
	K078	Upgrade required*	not avl.	thermocouple 2-			I_A_TC2B				

*Required Upgrade: Software Option “Measurement Package”

Digital Inputs

ECU Pin connector >A<	ECU Pin connector >K<	For 6.1 and 6.3 Upgrade required*	For 6 CUP not available	I/O Type	hardware	pin related functions	ecu_name	rec.wire size AWG	MS 6 function recommendation	function to pin coordination	related physical input measure channel
A047				crankshaft+ (Hall/Inductive)	switchable between hall effect- and inductive sensor	CWINTF_CRANK PIN_IN_CRANK CWINTF_CRANK_K CWINTF_CRANK_TH	I_P_CRANKA	24shield	engine speed	fixed function to pin coordination	nmot
A048				crankshaft - (inductive)			I_P_CRANKB	24shield			
A074				digital input	hall effect sensor only		I_P_CAM1	24shield	camshaft inlet	PIN_IN_CAM_IN	cam_pos_edges_001
A075				digital input	hall effect sensor only		I_P_CAM2	24shield	camshaft outlet	PIN_IN_CAM_OUT	cam_pos_edges_out_001
A049				digital input	switchable between hall effect- or DF11 sensors	CWINTF_A049	I_P_WHEEL1	24shield	camshaft inlet bank2 or wheelspeed front right	PIN_IN_CAM_IN2 or PIN_IN_FWEEL_FR	cam_pos_edges2_001 fwheel_fr
A050				digital input	switchable between hall effect- or DF11 sensors	CWINTF_A050	I_P_WHEEL2	24shield	camshaft outlet bank2 or wheelspeed front left	PIN_IN_CAM_OUT2 or PIN_IN_FWEEL_FL	cam_pos_edges_out2_001 fwheel_fl
A051				digital input	switchable between hall effect- or DF11 sensors	CWINTF_A051	I_P_WHEEL3	24shield	wheelspeed rear right	PIN_IN_FWHEEL_RR	fwheel_rr
A052				digital input	switchable between hall effect- or DF11 sensors	CWINTF_A052	I_P_WHEEL4	24shield	wheel speed rear left	PIN_IN_FWHEEL_RL	fwheel_rl
A059				digital input	switch.-pullup 14k7, shared with analogue and SENT inputs	CWPULLUP_A059	I_F_DIG_IN[1]	24shield	free digital channel A059		
A061				digital input	switch.-pullup 14k7, shared with analogue and SENT inputs	CWPULLUP_A061	I_F_DIG_IN[2]	24shield	free digital channel A061		
	K066			digital input	switch.-pullup 14k7, shared with analogue and SENT inputs	CWPULLUP_K066	I_F_DIG_IN[3]	24shield	free digital channel K066		
	K067			digital input	switch.-pullup 14k7, shared with analogue and SENT inputs	CWPULLUP_K067	I_F_DIG_IN[4]	24shield	free digital channel K067		
	K083			digital input	switch.-pullup 14k7, shared with analogue and SENT inputs	CWPULLUP_K083	I_F_DIG_IN[5]	24shield	free digital channel K083		
	K084			digital input	switch.-pullup 14k7, shared with analogue and SENT inputs	CWPULLUP_K084	I_F_DIG_IN[6]	24shield	free digital channel K084		
	K049			digital input	switch.-pullup 14k7, shared with analogue and SENT inputs	CWPULLUP_K049	I_F_DIG_IN[7]	24shield	free digital channel K049		
A083				digital input	switch.-pullup 14k7, shared with analogue and SENT inputs	CWPULLUP_A083	I_F_DIG_IN[8]	24shield	free digital channel A083		
	K045			digital input	switchable between hall effect- and inductive sensor	CWINTF_K045 CWINTF_K045_K CWINTF_K045_TH	I_P_CAM3	24shield	turbo speed	PIN_IN_FTURBO	fturbo
	K046			digital input	switchable between hall effect- and inductive sensor	CWINTF_K046 CWINTF_K046_K CWINTF_K046_TH	I_P_CAM4	24shield	turbo speed bank2	PIN_IN_FTURBO2	fturbo2
	K062			ground supply	if inductive sensos are connected to K045 or K046		G_R_GNDCAM	24shield	ground for turbo speed and -2		

	K054			digital input			I_S_ENGINE_ON	20	Engine On/Off switch		b_engon(_in)
	K047			digital input	fixed pullup to 5volts		I_S_LAPTRIG	24	laptrigger	fixed function to pin coordination	lapctr
A013				knock sensor input			I_A_KNOCK_IN[1]	24shield	knock sensor 1, bank1	KCSENCYL	ikcraw_n_..
A014				knock sensor input			I_A_KNOCK_IN[2]	24shield	knock sensor 2, bank1	KCSENCYL	ikcraw_n_..
A015			not avl.	knock sensor input			I_A_KNOCK_IN[3]	24shield	knock sensor 1, bank2	KCSENCYL	ikcraw_n_..
A016			not avl.	knock sensor input			I_A_KNOCK_IN[4]	24shield	knock sensor 2, bank2	KCSENCYL	ikcraw_n_..
A017				knock sensor ground			G_R_GNDKNOCK	24shield			
	K085			Lambda_IA	LSU4.9 probe only		I_A_LS1IA	24	Lambda	fixed function to pin coordination	lambda
	K086			Lambda_IP			I_A_LS1IP	24			
	K087			Lambda_UN			I_A_LS1UN	24			
	K088			Lambda_VM			I_A_LS1VM	24			
	K068		not avl.	Lambda_IA	LSU4.9 probe only		I_A_LS2IA	24	Lambda bank2	fixed function to pin coordination	lambda2
	K069		not avl.	Lambda_IP			I_A_LS2IP	24			
	K070		not avl.	Lambda_UN			I_A_LS2UN	24			
	K071		not avl.	Lambda_VM			I_A_LS2VM	24			

Ignition- & Injection Outputs

ECU Pin connector >A<	ECU Pin connector >K<	For 6.1 and 6.3 Upgrade required*	For 6 CUP not available	I/O Type	hardware	pin related functions	ecu_name	rec.wire size AWG	MS 6 function recommendation	function to pin coordination	related physical input measure channel
A026				ignition driver	output related to mechanical cylinder number; use of coil integrated power stages only	CWIGNDRV_MODE IGNDRV_CURRENT	O_P_IGNOUT[1]	24	Ignition cyl.1	CYLNUMBER CYLANGLE	ign_out_n_001
A027							O_P_IGNOUT[2]	24	Ignition cyl.2		ign_out_n_002
A028							O_P_IGNOUT[3]	24	Ignition cyl.3		ign_out_n_003
A029							O_P_IGNOUT[4]	24	Ignition cyl.4		ign_out_n_004
A030			not avl.				O_P_IGNOUT[5]	24	Ignition cyl.5		ign_out_n_005
A031			not avl.				O_P_IGNOUT[6]	24	Ignition cyl.6		ign_out_n_006
A068			not avl.				O_P_IGNOUT[7]	24	Ignition cyl.7		ign_out_n_007
A069			not avl.				O_P_IGNOUT[8]	24	Ignition cyl.8		ign_out_n_008
A070			not avl.				O_P_IGNOUT[9]	24	ignition cyl.9		ign_out_n_009
A071			not avl.				O_P_IGNOUT[10]	24	ignition cyl.10		ign_out_n_010
A072			not avl.				O_P_IGNOUT[11]	24	ignition cyl.11		ign_out_n_011
A073			not avl.				O_P_IGNOUT[12]	24	ignition cyl.12		ign_out_n_012
A098				injector output	output related to mechanical cylinder number; low pressure high impedance injector types		O_P_LSOUT_INJECTION[1]	24twist	Injection cyl.1	CYLNUMBER CYLANGLE or (PIN_OUT_LPINJ_A098 … PIN_OUT_LPINJ_A084)	tinj_n_001
A100							O_P_LSOUT_INJECTION[2]	24twist	Injection cyl.2		tinj_n_002
A101							O_P_LSOUT_INJECTION[3]	24twist	Injection cyl.3		tinj_n_003
A096							O_P_LSOUT_INJECTION[4]	24twist	Injection cyl.4		tinj_n_004
A099			not avl.				O_P_LSOUT_INJECTION[5]	24twist	Injection cyl.5		tinj_n_005
A103			not avl.				O_P_LSOUT_INJECTION[6]	24twist	Injection cyl.6		tinj_n_006
A042			not avl.				O_P_LSOUT_INJECTION[7]	24twist	Injection cyl.7		tinj_n_007
A105			not avl.				O_P_LSOUT_INJECTION[8]	24twist	Injection cyl.8		tinj_n_008
A018			not avl.				O_P_LSOUT_INJECTION[9]	24twist	Injection cyl.9		tinj_n_009
A020			not avl.				O_P_LSOUT_INJECTION[10]	24twist	Injection cyl.10		tinj_n_010
A063			not avl.				O_P_LSOUT_INJECTION[11]	24twist	Injection cyl.11		tinj_n_011
A084			not avl.				O_P_LSOUT_INJECTION[12]	24twist	Injection cyl.12		tinj_n_012
A043				INJVH1	high pressure magnetic injectors		O_P_INJVH1	20twist	Injection cyl.A	PIN_OUT_HPINJ11A_A043_A064	tinj_n_(cyl.A)
A064				INJVL11			O_P_INJVL11	20twist			
A002			not avl.	INJVH3			O_P_INJVH3	20twist	Injection cyl.B	PIN_OUT_HPINJ32B_A002_A023	tinj_n_(cyl.B)
A023			not avl.	INJVL32			O_P_INJVL32	20twist			
A003				INJVH2			O_P_INJVH2	20twist	Injection cyl.C	PIN_OUT_HPINJ21C_A003_A024	tinj_n_(cyl.C)
A024				INJVL21			O_P_INJVL21	20twist			
A046			not avl.	INJVH4			O_P_INJVH4	20twist	Injection cyl.D	PIN_OUT_HPINJ42D_A046_A067	tinj_n_(cyl.D)
A067			not avl.	INJVL42			O_P_INJVL42	20twist			
A044			not avl.	INJVH1			O_P_INJVH1	20twist	Injection cyl.E	PIN_OUT_HPINJ12E_A044_A065	tinj_n_(cyl.E)
A065			not avl.	INJVL12			O_P_INJVL12	20twist			
A001				INJVH3			O_P_INJVH3	20twist	Injection cyl.F	PIN_OUT_HPINJ31F_A001_A022	tinj_n_(cyl.F)
A022				INJVL31			O_P_INJVL31	20twist			
A004			not avl.	INJVH2			O_P_INJVH2	20twist	Injection cyl.G	PIN_OUT_HPINJ22G_A004_A025	tinj_n_(cyl.G)
A025			not avl.	INJVL22			O_P_INJVL22	20twist			
A045				INJVH4			O_P_INJVH4	20twist	Injection cyl.H	PIN_OUT_HPINJ41H_A045_A066	tinj_n_(cyl.H)
A066				INJVL41			O_P_INJVL41	20twist			

Outputs

ECU Pin connector >A<	ECU Pin connector >K<	For 6.1 and 6.3 Upgrade required*	For 6 CUP not available	I/O Type	hardware	pin related functions	ecu_name	rec.wire size AWG	MS 6 function recommendation	function to pin coordination	related physical input measure channel
A095				lowside switch 4amps pwm			O_T_LSOUT_4A2[1]	24twist	camshaft inlet control	fixed pin to output control coordination	cam_pwm
A021			not avl.	lowside switch 4amps pwm			O_T_LSOUT_4A2[2]	24twist	camshaft inlet bank2 control	fixed pin to output control coordination	cam_pwm2
A102				lowside switch 3amps pwm			O_T_LSOUT_3A2[1]	24twist	camshaft outlet control	fixed pin to output control coordination	cam_pwm_out
A094			not avl.	lowside switch 3amps pwm			O_T_LSOUT_3A2[2]	24twist	camshaft outlet bank2 control	fixed pin to output control coordination	cam_pwm_out2
A019				lowside switch 3amps pwm			O_T_LSOUT_3A2[4]	24twist		PIN_OUT_A019	
A104			not avl.	lowside switch 3amps pwm			O_T_LSOUT_3A2[3]	24twist		PIN_OUT_A104	
A097				lowside sw. 2,2amps pwm			O_T_LSOUT_2A2[1]	24twist	Wastegate 1inc	PIN_OUT_A097	wgc_inc_pwm
A093			not avl.	lowside sw. 2,2amps pwm			O_T_LSOUT_2A2[2]	24twist	Wastegate 2inc	PIN_OUT_A093	wgc_inc_pwm2
	K039		not avl.	lowside sw. 2,2amps pwm			O_T_LSOUT_2A2[5]	24twist		PIN_OUT_K039	
	K056			lowside sw. 2,2amps pwm			O_T_LSOUT_2A2[7]	24twist	air conditioning compressor	PIN_OUT_K056	comp_pwm
	K038			lowside sw. 2,2amps pwm			O_T_LSOUT_2A2[3]	24twist	gearshift actuator upshift	PIN_OUT_K038	shiftup_pwm
	K040		not avl.	lowside sw. 2,2amps pwm			O_T_LSOUT_2A2[6]	24twist		PIN_OUT_K040	
	K055			lowside sw. 2,2amps pwm			O_T_LSOUT_2A2[4]	24twist	gearshift actuator downshift	PIN_OUT_K055	shiftdn_pwm
	K074			lowside sw. 2,2amps pwm			O_T_LSOUT_2A2[8]	24twist		PIN_OUT_K074	
	K089			lowside switch 1amp pwm			O_T_LSOUT_1A[1]	24twist	fuel pump relay	PIN_OUT_K089	fpump_pwm
	K073		not avl.	lowside switch 1amp pwm			O_T_LSOUT_1A[2]	24twist		PIN_OUT_K073	
	K057			lowside switch 1amp pwm / reset < 3,5V			O_S_RELAY	24twist	control main relay	fixed pin to output control coordination	b_mainrelay
	K072			lowside switch 1amp pwm / reset < 3,5V			O_S_STARTER	24twist	Kl.50 / starter control	fixed pin to output control coordination	b_starter
	K022			lambda heater 4amp pwm			O_T_LSOUT_LSH[1]	24twist	heater lambda	fixed pin to output control coordination	lsuh_out
	K023		not avl.	lambda heater 4amp pwm			O_T_LSOUT_LSH[2]	24twist	heater lambda2	fixed pin to output control coordination	lsuh_out2

H-bridges & Metering Unit

ECU Pin connector >A<	ECU Pin connector >K<	For 6.1 and 6.3 Upgrade required*	For 6 CUP not available	I/O Type	hardware	pin related functions	ecu_name	rec.wire size AWG	MS 6 function recommendation	function to pin coordination	related physical input measure channel
A089				H-Bridge 1 pos.	8,5 amps H-Bridge	CWHB1_EN	O_T_HB1_OUTA	24twist	electrical throttle 1	fixed pin to output control coordination	etc_pwm
A090				H-Bridge 1 neg.			O_T_HB1_OUTB				
A091				H-Bridge 2 pos.	8,5 amps H-Bridge	CWHB2_EN	O_T_HB2_OUTA	24twist	electrical throttle 2	fixed pin to output control coordination	etc_pwm2
A092				H-Bridge 2 neg.			O_T_HB2_OUTB				
K090				H-Bridge 3 pos.	8,5 amps H-Bridge	CWHB3_EN	O_T_HB3_OUTA	24twist		fixed pin to output control coordination	
K091				H-Bridge 3 neg.			O_T_HB3_OUTB				
A085				FCVH1			O_P_FCVH1	24twist	high press. pump MSV valve 1	fixed pin to output control coordination	msv_dlvy_angle
A086				FCVL1			O_P_FCVL1				
A087			not avl.	FCVH2			O_P_FCVH2	24twist	high press. pump MSV valve 2	fixed pin to output control coordination	msv_dlvy_angle2
A088			not avl.	FCVL2			O_P_FCVL2				

Network

ECU Pin connector >A<	ECU Pin connector >K<	For 6.1 and 6.3 Upgrade required*	For 6 CUP not available	I/O Type	hardware	pin related functions	ecu_name	rec.wire size AWG	MS 6 function recommendation	function to pin coordination	related physical input measure channel
	K029			CAN1_H	switchable CAN 120 Ohm resistor recommended for Motronic, Powerbox and ABS control functions	CWCAN1_TERM	B_D_CAN1_H	CAN	CAN1		E_can1
	K012			CAN1_L			B_D_CAN1_L				
	K028			CAN2_H	switchable CAN 120 Ohm resistor ~use for external ECU / gearbox control functions	CWCAN2_TERM	B_D_CAN2_H	CAN	CAN2		E_can1
	K011			CAN2_L			B_D_CAN2_L				
	K027			CAN3_H	switchable CAN 120 Ohm resistor ~use for measurement functions	CWCAN3_TERM	B_D_CAN3_H	CAN	CAN3		E_can1
	K010			CAN3_L			B_D_CAN3_L				
	K052			RS232_RX	used for telemetry		B_D_RS232_RX	24twist	RS232		
	K053			RS232_TX			B_D_RS232_TX				
	K044			ETH1RX+	ecu communication		B_D_ETH1RX+	CAT7	Ethernet 1		
	K043			ETH1RX-			B_D_ETH1RX-				
	K042			ETH1TX+			B_D_ETH1TX+				
	K041			ETH1TX-			B_D_ETH1TX-				
	K061			ETH2RX+	extended communication to Bosch devices like Powerbox, Display, Data logger		B_D_ETH2RX+	CAT7	Ethernet 2		
	K060			ETH2RX-			B_D_ETH2RX-				
	K059			ETH2TX+			B_D_ETH2TX+				
	K058			ETH2TX-			B_D_ETH2TX-				

	K025			USB_DP	use for additional data stick		B_D_USB_DP	USB	USB		
	K024			USB_DN			B_D_USB_DN				
	K007			USB_GND			G_G_USB_GND				
	K008			USB_VBUS			O_V_USB_VBUS				
	K014			TIMESYNC	timeline to Ethernet extension modules		B_F_TIMESYNC	24	data time synchronizing line		
	K066			not used							
	K067			not used							
	K083			not used							
	K084			not used							
	K051			LIN	LIN communication	CWLINMODE	B_D_LIN	24	LIN-Bus		
	K030			TN digital output	configurable rpm-output	TNSIG_PULSENUM TNSIG_PWM	O_F_DIGOUT[1]	24	rpm-signal	PIN_OUT_K030	
	K013			TN digital output	to check engine synchronization,		O_F_DIGOUT[2]	24	flywheel-signal	PIN_OUT_K013	
	K037			TN digital output			O_F_DIGOUT[3]	24	triggerwheel-signal	PIN_OUT_K037	
A059				SENT1	shared with analog and digital inputs	CWPULLUP_A059	I_F_DIG_IN[1]	24	SENT-BUS		
A061				SENT2	shared with analog and digital inputs	CWPULLUP_A061	I_F_DIG_IN[2]	24	SENT-BUS		
	K066			SENT3	shared with analog and digital inputs	CWPULLUP_K066	I_F_DIG_IN[3]	24	SENT-BUS		
	K067			SENT4	shared with analog and digital inputs	CWPULLUP_K067	I_F_DIG_IN[4]	24	SENT-BUS		
	K083			SENT5	shared with analog and digital inputs	CWPULLUP_K083	I_F_DIG_IN[5]	24	SENT-BUS		
	K084			SENT6	shared with analog and digital inputs	CWPULLUP_K084	I_F_DIG_IN[6]	24	SENT-BUS		
	K049			SENT7	shared with analog and digital inputs	CWPULLUP_K049	I_F_DIG_IN[7]	24	SENT-BUS		
A083				SENT8	shared with analog and digital inputs	CWPULLUP_A083	I_F_DIG_IN[8]	24	SENT-BUS		

Power Supplies

ECU Pin connector >A<	ECU Pin connector >K<	For 6.1 and 6.3 Upgrade required*	For 6 CUP not available	I/O Type	hardware	pin related functions	ecu_name	rec.wire size AWG	MS 6 function recommendation	function to pin coordination	related physical input measure channel
	K003			battery plus			V_V_DYNPWR	14	dynamic power supply		
	K005			battery plus			V_V_DYNPWR	14	dynamic power supply		
	K006			battery plus			V_V_DYNPWR	14	dynamic power supply		
	K075			battery plus			V_V_VBAT	20	digital power supply		
	K001			battery minus			G_G_GND	14			
	K002			battery minus			G_G_GND	14			
	K004			battery minus			G_G_GND	14			
A009				sensor supply 5V/50mamp	recommended supply for: aps_a, etc		O_V_5VSNS4	24	ETC sensor supply 1		
A011				sensor supply 5V/50mamp	recommended supply for: aps_b, etc2		O_V_5VSNS5	24	ETC sensor supply 2		
	K065			sensor supply 5V/150mamp		CW5VOUT3_EN	O_V_5VSNS3	24	5 V sensor supply 4		
A007				sensor supply 5V/50mamp			O_V_5VSNS7	24	5 V sensor supply 5		
A005				sensor supply 5V/150mamp		CW5VOUT1_EN	O_V_5VSNS1	24	5 V sensor supply 1		
	K064			sensor supply 5V/150mamp		CW5VOUT2_EN	O_V_5VSNS2	24	5 V sensor supply 2		
	K063			sensor supply 5V/50mamp			O_V_5VSNS6	24	5 V sensor supply 3		
	K080			sensor ground 1			M_R_GNDSNS1	20	ground sensor supply		
	K081			sensor ground 2			M_R_GNDSNS6	20	ground sensor supply		
	K082			sensor ground 3			M_R_GNDSNS7	20	ground sensor supply		
A006				sensor ground 4			G_R_GNDSNS2	20	ground sensor supply		
A008				sensor ground 5			G_R_GNDSNS3	20	ground sensor supply		
A010				sensor ground 6	recommended ground for: aps_a, etc		G_R_GNDSNS4	20	ground sensor supply		
A012				sensor ground 7	recommended ground for: aps_b, etc2		G_R_GNDSNS5	20	ground sensor supply		
A062				screen ground			PCB_FUSE_2A	24	sensor screens		
	K021			screen ground			PCB_FUSE_2A	24	sensor screens		
	K026			screen ground			PCB_FUSE_2A	24	Ethernet and LIN screens		
	K049			not used							
	K009			screen ground			PCB_FUSE_2A	24	USB screen		
A083				not used							