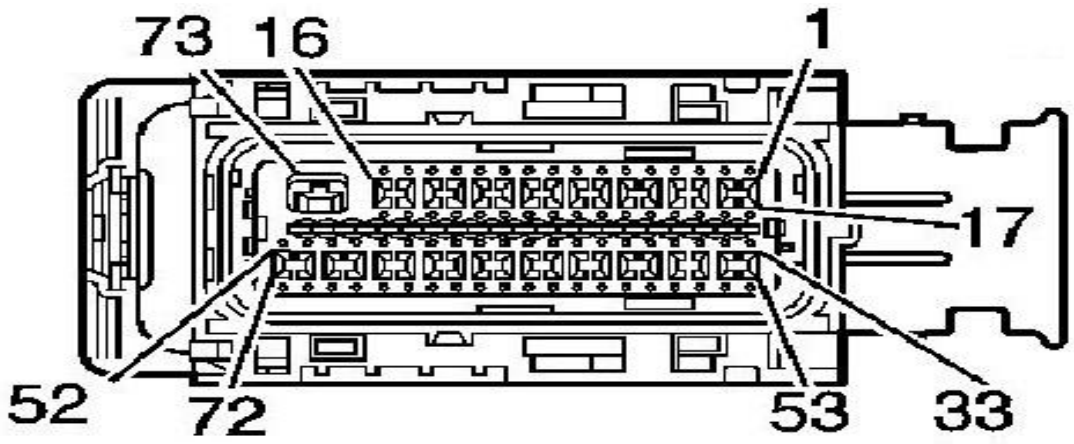
LML E86A ECM pinout

Derks Custom Cars, Biggar
matt@derkscustomcars.com



X1 Blue

	colour	function
1	brn/wh	DEF valve low crtl - pin 2 reductant injector
2	brn	DEF valve high ctrl - pin 1 reductant injector
3	dk blu	DEF smart pump ctrl - pin 3 reductant pump module
5	yel/blk	start enable ctrl - pos side start relay
6	dk gn	reductant purge valve - pin 1 at tank
7	brn/wh	low ref - EGT 2 sensor pin B
9	lt blu/wh	cruise/tcc brake signal - 12v when brake pedal pushed. NEEDS lamp in circuit!
14	gry	5v ref - cooling fans
15	gry/blk	low ref - MAF pin E
16	lt blu/wh	low ref - EGT 2 sensor pin A
17	brn/wh	MIL - GND side of MIL light
18	ppl	inj low ctrl - 9th injector pin 1
19	wh/blk	cooling fan ctrl speed signal
20	dk blu	wait to start - GND side of wait to start light
22	tan	low ref - EGT sensor 3 pin B
25	org/blk	P/N signal
26	dk blu	wake up serial data - 12v in run/start
27	tan	low ref - EGT sensor 4 pin B
28	tan/blk	low ref - fuel level sensor(s) pin B
29	brn	pres sensor signal - reductant tank pressusre sensor pin 2
30	gry	5v ref - reductant tank pressusre sensor pin 1
31	tan	low ref - reductant tank pressusre sensor pin 3
33	dk blu	inj hi ctrl - 9th inj pin 2
34	dk gn/wh	AC clutch ctrl
35	tan	low ref - reductant pump pin 4
36	tan	low ref - AC high pressure sensor pin 1
38	lt blu	EGT sens 2 signal - EGT sensor 2 pin A
39	lt blu	APP 2 signal - APP pin B
40	tan/blk	IAT sensor signal - MAF pin B
41	dk blu	differential pressure sensor signal - exhaust differential pressure sensor pin 2
42	wh/blk	5v ref APP - APP pin D
43	gry	5v ref - exhaust differential pressure sensor pin 3
44	yel/blk	low ref - exhaust differential pressure sensor pin 1

rev 1 , december 2021

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X1 Blue	45	lt gn	serial - data - NOX module pin 2
	46	tan	serial - data
	48	pnk	IGN1 - ECM IGN fuse 53 - 15A
	49	yel	MAF signal - MAF pin C
	50	org	generator on
	51	ppl	low ref - APP pin A
	53	blk	valve low ctrl - reductant purge valve pin 2
	54	gry	pump supply volt - reductant pump pin 5
	55	brn	low ref - APP pin F
	56	dk blu/wh	EGT sens 4 signal - EGT 4 pin A
	57	lt gn	EGT sens 3 signal - EGT 3 pin A
	58	ppl	fuel level sensor
	59	org/blk	ac system
	61	dk blu	APP 1 signal - APP pin E
	62	tan	5v ref - APP pin C
	63	gry	5v ref - AC system
	65	dk gn	serial + data NOX module pin 3
	66	tan/blk	serial + data
	67	red/wh	B+ - ECM bat fuse 11 15A
	68	yel	power train relay ctrl - ground side relay
	69	dk blu	cooling fan speed signal
	70	gry	alternator duty cycle
	71	brn/wh	low ref cooling fans
	72	org/blk	tos signal
	73	pnk	IGN1 - DSL ECM IGN fuse 12 - 30A

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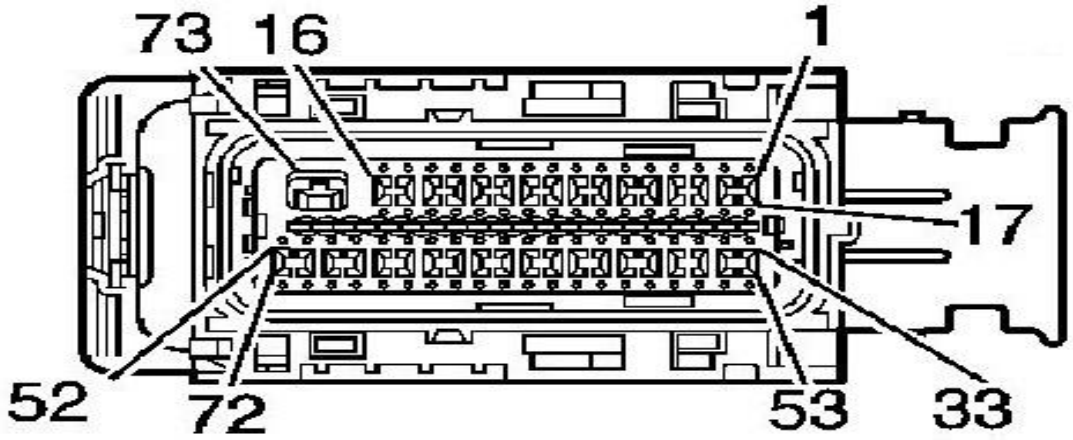

X2 black

	colour	function
1	dk gn/wh	relay control - pos side fuel tank balance relay
2		
3	yel	valve high ctrl - fpr1 pin 1
4	ppl/wh	sol supply volt - fpr2 pin 1
5	blk	valve low ctrl - fpr1 pin 2
6	whi	sol low sig - turbo vane solenoid pin B
7	tan	low ref - pin 4 intake air valve
8	tan	low ref - pin 3 EGR valve
9	brn	oil level switch signal - GND if oil level is low
10	brn	low ref - pin B EGT sensor 1 in exhaust
11	tan	low ref - pin 3 EGR bypass valve
12		
13	brn/wh	dfi volt ctrl cyl 1
14	tan/wh	dfi volt ctrl cyl 7
15	lt blu	dfi volt ctrl cyl 4
16	brn	dfi volt ctrl cyl 1
17	blk/wh	GND
18	blk/wh	GND
19	yel	low ref - pin 2 FPR
20	blk/wh	GND
21	blk/wh	GND
22	dk blu	sol high sig - turbo van solenoid pin A
23		
24		
25	org/blk	low ref - turbo vane posistion sensor pin C
26		
27	yel/blk	vss out to ABS
28		
29	lt blu/whi	dfi volt ctrl cyl 4
30	ppl/wh	dfi volt ctrl cyl 6
31	tan	dfi volt ctrl cyl 7
32	ppl	dfi volt ctrl cyl 6

rev 1 , december 2021

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X2 black

		pins 33 - 40 NOT USED
41	blk	low ref - EOP pin 3
42		**pins 42 - 46 NOT USED**
47	gry	5 volt ref - EGR valve pin 1
48	gry	5 volt ref - EGR bypass valve pin 1
		pins 49 - 65 NOT USED
66	tan	sens volt ref - turbo van position sensor pin D
67	ppl/wh	5 volt ref - CKP sensor pin 3
		pins 68 - 72 NOT USED
73	blk/wh	GND

rev 1 , december 2021

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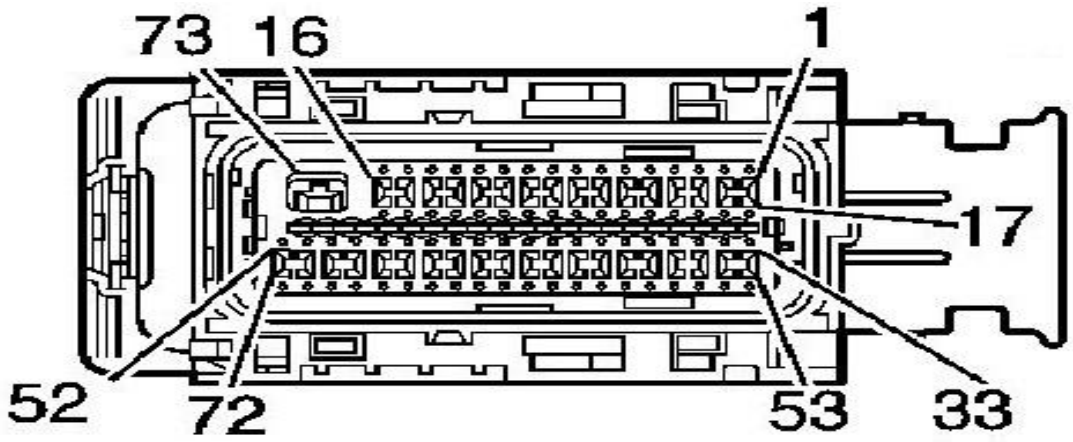

X3 grey

	colour	function
1		
2	dk blu/wh	water in fuel sens signal -
3	lt blu/wh	fuel level rear tank
4	tan/wh	EOP sig - EOP pin 1
5		
6	ppl/wh	ERGT sens 1 sply volt
7	dk blu	EGRT sens 2 sply volt
8		
9	brn/wh	EGR valve sens sig
10	yel	pos sens sig - turbo vane position sensor pin B
11	yel	fuel temp sig - fuel temp sensor 2 pin 1
12	brn	temp sens sig - CAC outlet temp sensor pin 1
13	tan	temp sens rtn - CAC ountlet temp sensor pin 2
14	tan	5v ref - FPR sensor pin 3
15		
16	gry	5v ref - MAP pin 1
17		
18	dk blu	EGT sens 1 sig - EGT sensor 1 pin A
19		
20	yel	pressure sens sig - FPR sensor pin 2
21	lt gn	pressure sens sig - MAP pin 3
22		
23		
24	yel	ect sens sig - ECT sensor pin A
25	dk gn/wh	pos sens sig - EGR valve pin 5
26		
27	brn gry	fuel temp 1 sig
28	dk gn	cac temp sig - CAC inlet temp sensor pin 1
29	tan/blk	sens ret - CAC inlet temp sensor pin 2
30	gry	5v ref - EOP pin 2
31	dk blu	5v ref - CMP pin 3

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X3 grey	32	gry	5v ref - intake air valve pin 5
	33		
	34		
	35		
	36	org/blk	low ref - FPR sens pin 1
	37	org/blk	low ref - MAP pin 2
	38		
	39		
	40	tan	low ref - ECT pin B
	41		
	42		
	43		
	44	gry/blk	pressure sw sig - Fuel filter pressure pin A
	45		
	46	brn/wh	temp 1 return - fuel temp sensor 1 pin 2
	47		
	48	brn	low ref - fuel temp sensor 2 pin 2
	49	gry/wh	dfi volt ctrl cyl 8
	50	dk blu/wh	dfi volt ctrl cyl 2
	51	dk blu	dfi volt ctrl cyl 2
	52	lt gn	dfi volt ctrl cyl 5
	53		
	54	lt gn/blk	egr motor ctrl low - EGR valve pin 2
	55	org/blk	egr motor ctrl high - EGR valve pin 6
	56	brn	act ctrl close - intake air valve pin 2
	57	yel	act ctrl open - intake air valve pin 1
	58	org/blk	motor close ctrl - EGR bypass valve pin 2
	59	lt gn	motor open ctrl - EGR byspass valve pin 6
	60	gry/blk	low ref - CKP pin 2
	61	wht/blk	CKP sens sig - CKP pin 1
	62	dk gn	pos sens sig1 - intake air valve pin 3
	63		
	64	dk gn/wh	shutdown sig - PTO system
	65	dk blu/wh	CMP sens sig - CMP pin 1
	66	brn	low ref - CMP pin 2
	67	brn	low ref - EGR 1 temp pin 1
	68	wht	low ref - EGR 2 temp pin 2
	69	dk gn/wh	dfi volt ctrl cyl 3
	70	lt gn/wh	dfi volt ctrl cyl 5
	71	dk gn	dfi volt ctrl cyl 3
	72	gry	dfi volt ctrl cyl 8
	73	blk/wh	GND

Only required for Emission equipped
Optional, use as required

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