# Solectria

Moter Wires	Battuy
T-Blue	Bt-Red
5 - White	B Black
R - Red	
AMC 300	
* Brake Light Rola	y - Black white wine
to Emparage Chief	- down punple
Output for fan	parpic
Output too ten	
7/0 0 1 6	·
26 pin connecte	to delta 14 comman +06,10
) della configured	to della 14 comman
Z J Sofer	15 bathy oftage Yours /2
3	16 postby current - 16mm/2
5 comments	17 speed, 200/1000mm+
5 isamen	18
6 pagense commo	an 19 bottery
commen 7 cruis off	20 bottery
& commen	ZI besting (4)
9 (valisse an	22 comman 106,10,24
10 Jugan off not	y gon 23 odanste 1 impol/
11	24 COMMON \$6,10,26
(val with sales) 12 ) par 59 (math with sales) 12 ) par 59 (math with sales)	ver 25 7 parent sorphy
mactin 104 ( 13 (an/off)	26 I HED CONTROLLY achie
	common when closed to #10,24, 22
	12

10 AMC 320 DB25

Z6 pin in socket

Conhechin

phonn 1 ved 2 1 i

common to #23 Delta (selected)

25,24,22,14,10,6 connect direct

forward

PMK 4

ovarry 3

yellows

regen on loff

11 ?

off when open

green 6

1Htgrant

blue 8

purple 9

gron/10

while 11

from pot? think # 15 used

tic to #45 - 46 pin pot

black 12

Pot. brown 13 breaking redlarange.

main switch

25

red blue 5

red white 4

ovange 16

direction backward

5

uranselblu 17 Phackstripe 18

e conomy

Yellanlblack 19

grow white 20 grown brown 21

Whitestrop 22

purple 23

gray Zy black 25 common to #1

Pot accolonating brown ly reen

-> 5149 Pin pat

accelerator pot. conter wiper

-> 5/6 pin pot. Yellowlblue

Sprood Pot red #1 /VC #2 #3 one end #43 conta-#53 conta-# 5 of Mark of hur and

vol zero accelerate oz

5k pol

Full throftle 723/2

Zovo teller 5.3K grown Full 4.67K

Fail safe when when man Il at zono west some accel: lower Il at man a celevation

brown green to #24
Victory to #2/2,7
broad/army to #13

rod/aranse

Yellow/blue

brown/grown

	- Decircle	
	I/F Box 3 junction boards  5ld - potentionates	
	Speed Sanson Pin 1 Red	
	Pin 1 Red	
	3 '4	
3 7 7 7	5	
	7-	
	9	
	10	
	•	

Speed Sanor

DB9 Pih

GND/Shield > 1 (Rod)

1 red Z

6 green 3

2 yellow 4

7 white 5

3 orange 6

8 gray 7

4 purple 8

9 black 9

5 blue 10

DB9

GND/Shield

I red

Z yellow

3 oromer

4 purple

5 blue

6 green

7 White

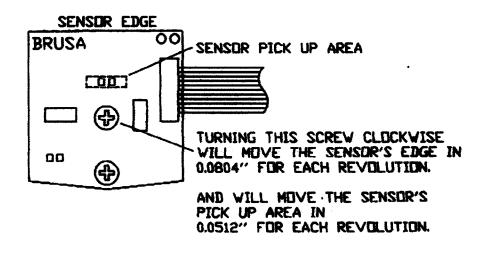
Early Force Motor Speed Senson (Belt. drive)

Unply Motor speed senson at Motor controller.

- 5. Separate the motor cooling fan harness from the vehicle harness at the firewall.
- 6. Remove the (2) Philips machine screws (SAE #8-32) securing the fan housing to the motor and remove the fan and housing:
- 7. Remove the (3) small M4 (metric) screws from the motor cover plate. Carefully cut the seal between the plate and the motor with a razor blade while gently prying the plate with a small slotted screwdriver. Be extra careful near the sensor cable exit point from motor.
- 8. Inspect encoder wheel for dirt and sensor wear marks. Replace if damaged.
- 9. To adjust: Carefully remove silicone from inner slotted screw-head at circuit board and adjust as outlined below.
- 10. To replace: Cut the small zip tie securing the gray harness to the holder and remove the small Phillips screw (metric M-3) securing the holder and ground wire to the motor.
- 11. Remove the silicone from the slotted screws at the circuit board. Loosen the outer screw almost all the way- there is a spacer between the board and the motor under this screw. Loosen the inner screw (metric) all the way while reaching behind the board to catch the small spring. Now, remove the outer screw all the way being careful to catch the spacer/washer behind it. Please do not lose any hardware.
- 12. Snip the two black temperature sensor wires close to the board (1/8 1/4 inch), then undo the harness clamps at the firewall and remove the sensor from the vehicle.

# Motor Speed Sensor Installation

- 1. Install a lock washer and a flat washer on outer shorter screw (metric M-3) and insert through circuit board and 0.025 spacer/washer under board. Hold spacer on back of board while starting screw into motor two turns. Place spring behind board and hold it while inserting inner longer screw (metric M-3) and flat washer through board and spring and into motor. Tighten down outer shorter screw all the way.
- 2. To adjust: Line up the speed sensor plate retaining screws parallel to the inner edge of the circuit board by turning the drive wheels slightly. Using a plastic non-abrasive feeler gauge to avoid damaging the sensor wheel, adjust inner screw so that the gap between the center inner edge of the board itself and the sensor plate is 0.145 inches inches. Insert gauge only 1/8 inch from edge of board. Do not lift board with gauge.
- 3. Put a 1/8 inch dab of silicone sealant on each screw head and along outer edge of board to prevent movement.
- 4. Re-solder the temperature sensor wires if they were cut upon removal (they are not polarized). Be careful not to overheat the terminals or they may unsolder from the board. Install small harness holder and ground wire against the motor and tie-wrap harness to holder.
- 5. Run test procedure again before installing cover. (Temporarily plug in gray Anderson connector at motor controller and 9-pin connector.)
- 6. Apply a narrow bead of silicone sealant around the motor cover plate rim and install the cover plate. Be sure harness is seated in its notch.
- 7. The rest of the procedure is the reverse of removal. Be sure to install (2) tie-wraps at the red, white and blue connector before reinstalling metal zip-on mesh. Road test the



This disk contains this READ-ME file and the file AMC for programming the AMC-III with an IBM-compatibel PC via a serial port (COM1 or COM2).

#### **INSTALL:**

To install, you have to copy all the files in a directory (Ex: C:\AMC\) and start with AMC\_E.EXE

#### Language:

Language is selected with parameter D (deutsch) or E (english)

#### Selection of COM-port:

The default COM port is COM1; additionally the COM-port number may also be given by a parameter.

e.g.: AMC E <CR> programming via COM1 in english or AMC E 1 <CR> programming via COM1 in english or AMC E 2 <CR> programming via COM2 in english

## Preparations:

Connect the AMC to the PC with the special cable.
This cable contains a RS422 (AMC) <> RS232 (PC) interface converter.

If your PC has only 9-pole connectors for the COM-ports, you have to use a standard 9 <> 25 pole converter. If you want to make this converter by yourself, only three wires have to be connected:

Make sure that no (mouse-)drivers are active on the used COM-port!

Start the AMC-x program as decribed above. A screen message will ask you to switch on the AMC. If the AMC is already powered-up at this time, you have to switch the AMC off and on, because the programming request will only be acknowleged in the AMC power-up sequence.

#### Important note:

If the AMC is in the programming mode, no converter functions will be active. when leaving the programming mode by exiting the AMC-x program, the converter functions will be active immediately (with the new parameters). So make sure, that your car won't run away at this time ...!

## Changing values:

After the AMC is powered up in the proramming mode, strike any key on the PC and all parameters will be displayed on the screen. Some of the values are

### PRG\_E

read-only, others can be changed within a certain range. The range will be shown at the bottom line in this format: (minimum ... standard ... maximum)

With the ENTER- ,TAB or cursor-keys the different parameters can be selected. For changing a value (parts of) the old value has to be deleted with the backspace-key before the new value can be entered.

After changing a value (which is valid and not read-only) and leaving the corresponding input field, the new value is sent to the AMC, programmed and echoed back to the PC. If there is a communication error (no or bad echovalue), an error message will appear at the bottom line and an acustical warning can be heared. In this (seldom) case, try to reenter the value again.

Values out of range will not be accepted and an error message will also appear on the bottom line.

When changing the type of AMC or the type of motor, different values will change at one time and the screen will be redrawn completely.

## Online-help:

By pressing the F1 key an online help window will appear showing more details about the selected item. The window will disappear by striking any key. Afterwards normal editing is possible again.

## Leaving the AMC program properly

You can exit the program by the ESC-key. The value in the selected input field will be programmed in the AMC, if changed to a valid value before, but we suggest not to leave the program by pressing ESC in an input field, which was just changed before, because you have not the possibility to re-enter the value on communication errors.

When leaving the AMC program, the AMC will recalculate the checksum for the parameters and will also store this value, which is invisible for the user. After this an AMC reset will be performed and the AMC will run in normal converter mode. (remember the important note above!) After the successful internal checksum-test the new values will be active.

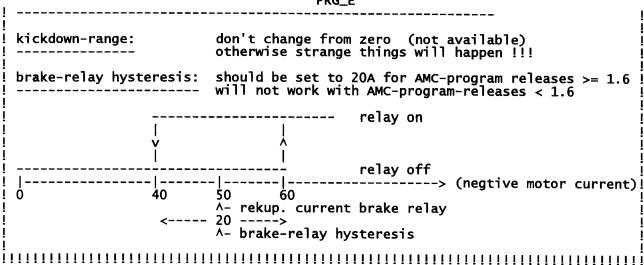
If the checksum-test should fail, default values will be used. The default values should make it possible to reach then next service station, where the actual AMC- & Motor- parameters must be reprogrammed to get the best performace again.

# Leaving the AMC-x program inproperly

If no communication is possible, the program can be aborted by pressing <CTRL-BREAK>, but in this case the checksum, will not be updated and will be false, if there were values changed before. Further the AMC will stay in programming mode until the converter is switched off.

Another way of inproper leaving the AMC program is done by turning off the PC and / or the AMC before leaving the AMC program with the ESC-key.

It is strongly recommended to run the AMC-x program again in all these cases and to leave it properly to get a valid checksum for the parameters.



## Program description of AMCMON E

Version 2.34

The program AMCMON E x is catching and displaying all data, which is transmitted via the serial port of the AMC running in converter mode. It shows the internal values of the AMC-III and can therefore also be used for troubleshooting.

Preparations: connect the AMC-III with the special cable to COM1 or COM2 of the PC and turn on the AMC main switch.

Start of the programs: AMCMON E x , and you will be prompted for the AMC-type or AMCMON E x yyy, where yyy is the AMC-type e.g. 325

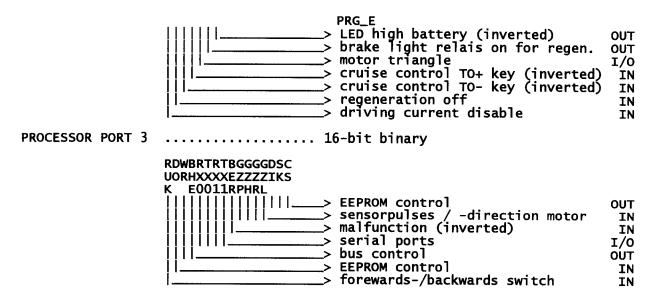
x determines the used COM-Port of the PC, that means AMCMON E 1 uses COM1
AMCMON E 2 uses COM2

On the screen these values will appear:

pedal operation	Amp
motorcurrent ref	Amp
motorcurrent act	Amp
economy	Amp
battery current	Amp
battery voltage	Volt
temp. power stage (min.40øC)	øС
rotor speed	upm
rotor speed	upm
slip frequency	mHz
slip integral	mHz
max.slip integral	mHz

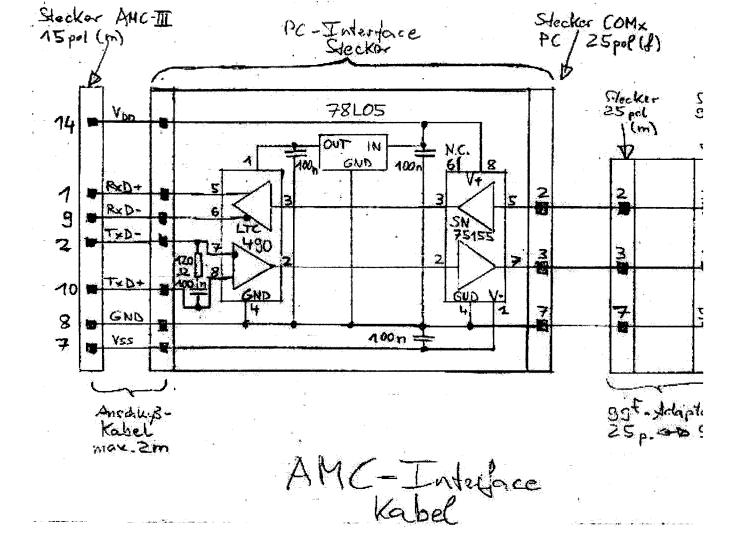
PROCESSOR PORT 2 ...... 16-bit binary





Furtermore the elapsed time since start of the program will be shown, You can reset this value every time you hit the <SPACE> key.

The programm can be aborted with the <F10> key.



LTC490 = SN75/79