

AUTRONIC MAFM1 B version - Set-up

Use left-hand front panel push-buttons to select the function to adjust.
Use right-hand front panel push-buttons to adjust the selected function.

Meter will return from adjustment mode to function select mode if no adjustment is made for 5 seconds, and return from function select mode to measurement display if no front panel push-button pressing occurs after a further 5 seconds.

Force an immediate return to measurement display by simultaneously pressing the 2 left-hand front panel push-buttons.

Function No.	Function	Settings	Default setting ¹																											
0	'Normal' Readout																													
1	DIGITAL DISPLAY units	-LA- = Lambda AF-P = Petrol AF-g = Gas AF-d = Diesel AF-A = Alky	Lambda																											
2	DIGITAL DISPLAY update rate & filtering time constant	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Value</th> <th style="width: 40%;">Filtering time constant</th> <th style="width: 50%;">Update rate</th> </tr> </thead> <tbody> <tr><td>0</td><td>6.4 SEC</td><td>1.25 / SEC</td></tr> <tr><td>1</td><td>3.2 SEC</td><td>2.5 / SEC</td></tr> <tr><td>2</td><td>1.6 SEC</td><td>2.5 / SEC</td></tr> <tr><td>3</td><td>0.8 SEC</td><td>2.5 / SEC</td></tr> <tr><td>4</td><td>0.8 SEC</td><td>5 / SEC</td></tr> <tr><td>5</td><td>0.4 SEC</td><td>5 / SEC</td></tr> <tr><td>6</td><td>0.2 SEC</td><td>5 / SEC</td></tr> <tr><td>7</td><td>0.03 SEC</td><td>5 / SEC</td></tr> </tbody> </table>	Value	Filtering time constant	Update rate	0	6.4 SEC	1.25 / SEC	1	3.2 SEC	2.5 / SEC	2	1.6 SEC	2.5 / SEC	3	0.8 SEC	2.5 / SEC	4	0.8 SEC	5 / SEC	5	0.4 SEC	5 / SEC	6	0.2 SEC	5 / SEC	7	0.03 SEC	5 / SEC	5
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3	BAR GRAPH display mode	0 OFF 1 LEFT TO CURRENT 2 LEFT TO CURRENT & MAX 3 MIN TO MAX 4 MIN & MAX 5 MIN & MAX & CURRENT 6 CURRENT VAL Add 7 to value for filtering. TC = (BAR GRAPH peak hold time / 10) + 40mSEC (range 0.05 to 0.20 SEC)	6																											
4	BAR GRAPH peak hold time	range 0.1 to 1.60 SEC	0.6 SEC																											
5	BAR GRAPH display range minimum value for left end of Bar Graph	0.5 to 3.05 λ	0.8 λ (or 10.0:1 A/F Petrol)																											
6	BAR GRAPH display range maximum value for right end of Bar Graph	0.5 to 3.05 λ	1.2 λ (or 30.0:1 A/F Petrol)																											
7	ANALOG O/P output voltage range & error signalling mode	0 gives 0.0V to 5.2 V normal O/P range & 0.0 V for error 1 gives 0.156V to 5.2 V normal O/P range & 0.0 V for error 2 gives 0.0 V to 5.0 V normal O/P range & 5.2 V for error	2																											
8	ANALOG O/P filter TC	0.005 to 0.500 SEC	0.025 SEC																											
9	ANALOG O/P λ value @ minimum O/P voltage	0.5 to 3.05 λ	0.69 λ																											
10	ANALOG O/P λ value @ maximum O/P voltage	0.5 to 3.05 λ	2.06 λ																											
11	UEGO Air Cal O2 % ³	18 to 22 %	20.9 %																											
12	UEGO rich side calibration correction	-12.5 to 12.5 %	0.0 %																											
13	UEGO calibration stoic correction	-0.127 to 0.127 λ	0.0 λ																											
14	UEGO lean side calibration correction	-12.5 to 12.5 %	0.0 %																											

Notes:-

- ¹ To restore the meter to these factory defaults, simultaneously press all 4 front panel push-buttons (also deletes stored 'Air Calibration').
- ² To initiate a UEGO sensor 'Air Calibration' (version 'B' meter only), simultaneously press the 2 right-hand front panel push-buttons while 'Air' is displayed. Only do an 'Air' calibration after exposing the UEGO sensor to uncontaminated ambient air for at least 10 minutes.
- ³ Set to correct for the variation of ambient atmospheric oxygen partial pressure (applicable to UEGO sensor only). Normally set to value given by equation below prior to doing an "Air" calibration. Re-calculate and adjust as ambient air properties change to maintain calibration without having to redo an air calibration.

$$O2\% = 20.9 * (P - RH\%/100 * 10^{(8.07131 - \frac{1730.63}{233.426 + T})}) / 760$$

Where

T = Ambient Air temperature in deg C (range 1 to 60 deg C)

P = Ambient Air pressure in mm of Hg (use local pressure at test site, not Barometric pressure reported by meteorological office)

RH% = Ambient Air relative humidity %