

## **Extended Range MicroScan - Programming changes**

This document describes programming changes to the Extended Range MicroScan.

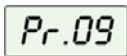



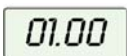







The following table summarizes the differences.

Appendix A and B provide additional detailed information.

	Function in Standard MicroScan	Function in Extended range MicroScan	Instructions for the user
PR00	Not applicable	Select flume for flow measurement	To operate this function - call SolidAT support team
PR09	Restore Defaults	Enter gas compensation factor	See Appendix A below
PR10	Not applicable	Restore Defaults	Follow instructions for PR09 See Appendix B for defaults

## Appendix A - Entering factor for Gas Compensation

Function Pr.09 enables you to compensate for sound velocity changes in different types of gasses. You can enter the appropriate factor for each type of gas listed on the 'Gas Factor Table' below. For example the sound velocity in air (in room temperature) is 343 m/sec and for Methane (Ch4) 445.82 m/sec, therefore a factor of  $445.82/343 = 1.29$  should be entered. For impure gasses, you can manually modify the factor. For example, if the gas composition consists of water and gas you can add +/- 0.01 to the factor figure already entered.

Press/Action	Display	Explanation
⇒		Required menu selection.
⇒ 		Default screen.
⇒ 		Default value.
⇒  or   or 		Choose a factor from the 'Gas Factor Table' below.
⇒ 		Saves the chosen gas factor.

**Gas factor Table**

<b>Gas</b>	<b>Symbol</b>	<b>Factor</b>
Acetaldehyde	C <sub>2</sub> H <sub>4</sub> O	0.74
Acetyl Chloride	C <sub>2</sub> H <sub>3</sub> ClO	0.54
Ammonia	H <sub>3</sub> N	1.26
Argon	Ar	0.92
Bromine	Br <sub>2</sub>	0.41
Bromochlorodifluoromethane	CH <sub>2</sub> BrClF <sub>2</sub>	0.37
Butanone	CH <sub>3</sub> COCH <sub>2</sub> CH <sub>3</sub>	0.56
Carbon Dioxide	CO <sub>2</sub>	0.77
Carbon Monoxide	CO	1.01
Carbon Tetrachloride	CCl <sub>4</sub>	0.38
Chlorine	Cl <sub>2</sub>	0.68
Ethylene	C <sub>2</sub> H <sub>4</sub>	0.95
Helium	He	2.93
Neon	Ne	1.30
Nitrogen	N <sub>2</sub>	1.01
Oxygen	O <sub>2</sub>	1.02
Propanol	C <sub>3</sub> H <sub>8</sub> O	0.61
Tetrahydrofuran	C <sub>4</sub> H <sub>8</sub> O	0.57

## Appendix B – Defaults for standard range and for extended range MicroScan

The following table lists the default parameters when PR09 (standard) or PR10 (extended) is executed:

	Standard Range	Extended Range	PR Key
SBD	0 meter	0 meter	
Tank Height	5 meter	15 meter	PR02
Current indication	Level	Level	PR04
4mA	0 meter	0 meter	PR04
20mA	5 meter	15 meter	PR05
Damping rate	SE0	SE0	PR06
LCD Indication	Distance	Distance	PR08
Gas Factor		01.00	PR09 for extended
Error En/Dis	Enable	Enable	