MEDCON

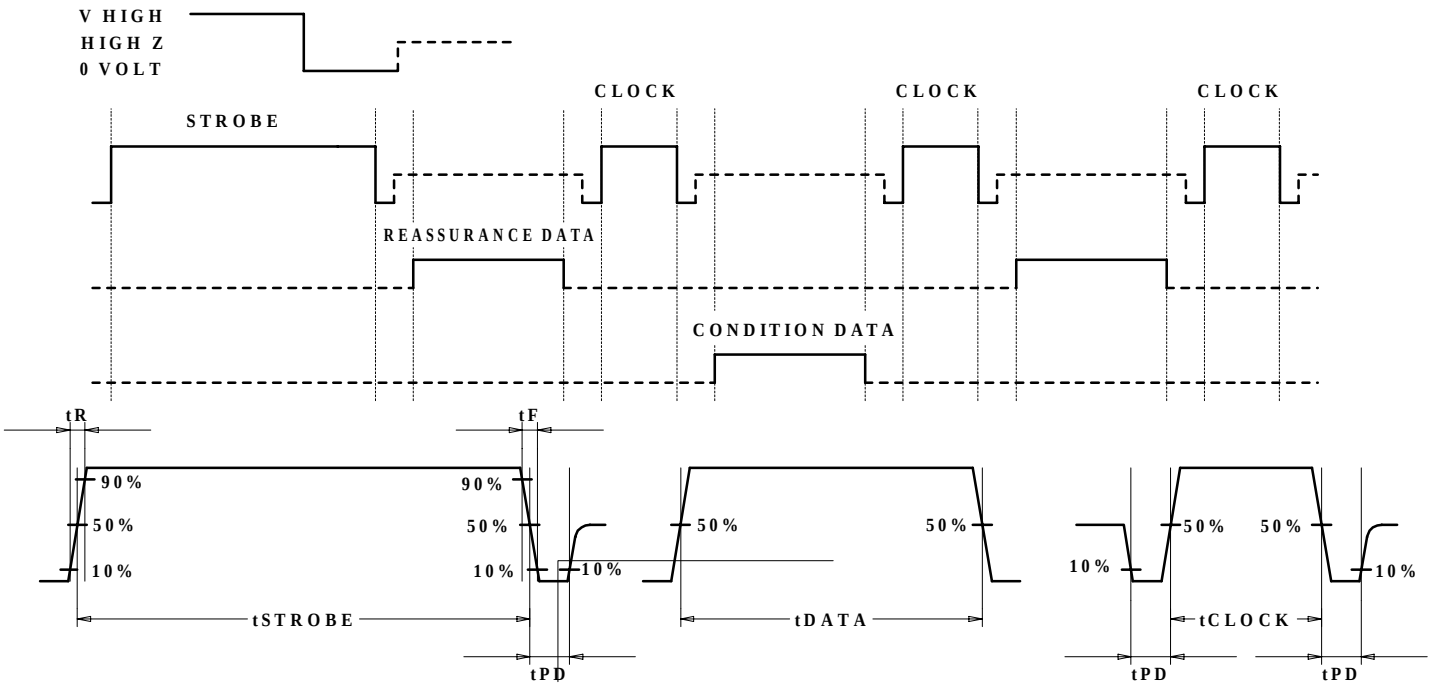
REVISION 1

An open standard for low speed data transmission for Medical Gas Alarm systems

The MEDCON standard has been in use for over 10 years and has proved to be highly reliable, with a high immunity to data corruption due to RFI and high speed transients. A low data rate allows heavy filtering at any receiving point on the system and makes signal cable characteristics irrelevant.

Description. The data transmission system is a Pulse Width Modulated system. The cycle is split into 15 groups or channels of 4 REASSURANCE DATA and CONDTTION DATA pulses together with their CLOCK pulses. The last 3 REASSURANCE DATA and CONDITION DATA pulses and their CLOCK pulses are not used. The Central alarm transmits the STROBE ,CLOCK and REASSURANCE DATA pulses. Before each CLOCK and after each STROBE or CLOCK the line is pulled low by the central alarm, at all other times the line is high impedance unless a data signal is present. A CONDTTION DATA pulse can be inserted on the line at any point by pulling the line high for the appropriate time at the correct point in the cycle.

Protocol. The data stream consists of REASSURANCE DATA, CLOCK, Condition DATA, CLOCK repeated 63 times followed by a STROBE. This cycle is repeated continuously. The data sequence is Channel l, condition 4 condition 3 condition 2 condition 1, Channel 2 condition 4 etc. The presence of a REASSURANCE DATA pulse indicates that the central alarm has NOT been muted. The presence of a CONDITION DATA pulse indicates that the condition is at normal.



		MIN	MAX	UNIT
V HIGH	HIGH SIGNAL VOLTAGE	8	12.5	VOLTS
0 VOLT	SIGNAL LOW VOLTAGE	-0.5	1.0	VOLTS
tR	SIGNAL RISE TIME		1	mS
tF	SIGNAL FALL TIME		1	mS
tSTROBE	STROBE WIDTH	26	30	mS
tDATA	DATA WIDTH	14	18	mS
tCLOCK	CLOCK WIDTH	6	10	mS
tPD	PULL DOWN PULSE WIDTH	1.5	2.5	mS