Algorithms

Field-Equipment

Monitor/Control Signals

(Input Terminals)

(Output Terminals)

(1) Modem Control Lease/Radio (RTS)

(2) Output Relay Control from Remote Transducer D2

Remote Digital Input

Relay 2

(3) Output Relay Control from Remote Transducer D1

Remote Digital Input

Relay 1

TO Transverter SPM 9000-D2

Comm. Interval

(4) **D1,D2** Send Digital Status to Transverter

Digital Input

0/999sec

RS232 COMMUNICATION

(Dry Contact)
D1 Digital input
D2 Digital input

0/999sec

(5) If no Update Open Relays

0/999sec

(6) 'CD' Configure Data

(7) 'RD' Read Data

RS232C

Legend

(x) = Algorthim Number

( )**b/**
b/
b

● = Begin Algorithm

■ = End Algorithm

VOCABULARY LIST

DATATRAN
TRANSVERTER
DATE/TIME
DATA LOGGING
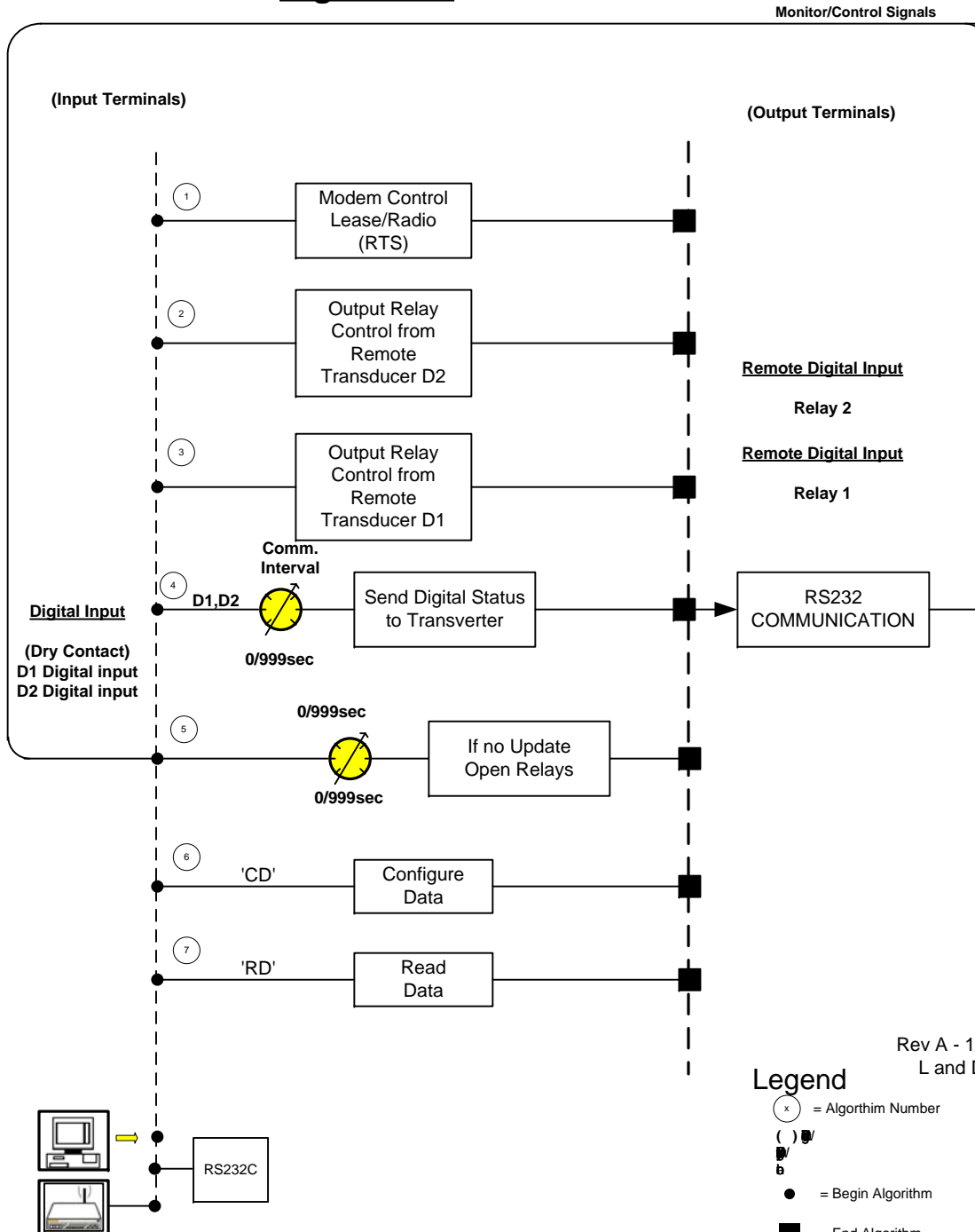
WARNING

For SCADA overall system design <u>must</u> incorporate other safeguards in addition to the ICS for operating conditions hazardous to personnel, equipment, or property; such as the use of "deadman" or "suresafe interlocks" and red tag access etc.

Rev A - 1/16/2017 - Doubled L and D Connect Delay

AGM Electronics, Inc.				
Tucson,Arizona				
Knowledge Map				
DATATRAN				
	Signature	Date	PRO-0000000-0000	Rev A
Drawn By	XX	XXXX	Ref SP6	
Checked By	XX	XXXX	SO# XXXX	Sheet 1 of 3
Cust Approval		__/__/__	XXXXKM	
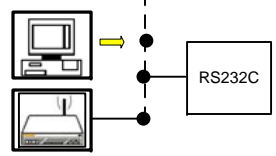
To Access the super puk configuration, type ' SCADA" from the drive/directory installed with the software provided in this shipment. You can use any terminal program that supports serial ASCII communications and use the same active commands. The terminal program provided herewith contains help notes on the super puk configurations. This program defaults to serial port COM:1.

L=Lease Line,   D=Dialup Phone lines,   R=Radio

Analog Filter (sec): Enter the analog input filter delay in seconds. This value is used for the averaging of the analog input, to prevent bounce or erroneous readings.   TYPICAL = 5 seconds.

Transmission Interval (sec): Enter the communication interval delay in seconds. At each interval the analog and digital information will be transferred between the two SPM units. TYPICAL: L=10, D=30, R=20.

Comm Fail Delay (sec): Enter the communication fail delay in seconds. This value is used to control the analog output if communication are stopped or in error. If the communications are not continue for the lenth of the fail delay the analog output will be set to the Initial analog value, until communications is restored. TYPICAL: L=300, D=300, R=300.

Connect Delay (sec): Enter the delay between connection and the start of data transmission. TYPICAL: L=40, D=60, R=1.

Modem Init String: : Enter an initialization string when a modem is used. The string can be 25 charters long and contain any type of charter. TYPICAL: L=ATX1D, D=ATE0V0DT(phone #), R=(none).

CalInp (N) : The default is "N". If carriage return is pressed, the configuration will continue with the next line allowing changes of the engineering units without physically putting in the 0% and 100% analog signal levels. If a "Y" is entered, the actual relationship between the physical input and engineering units will be changed. This requires applying the raw input signals to the analog input. If you do not have a means to enter the raw signals at this time do not reply "Y".
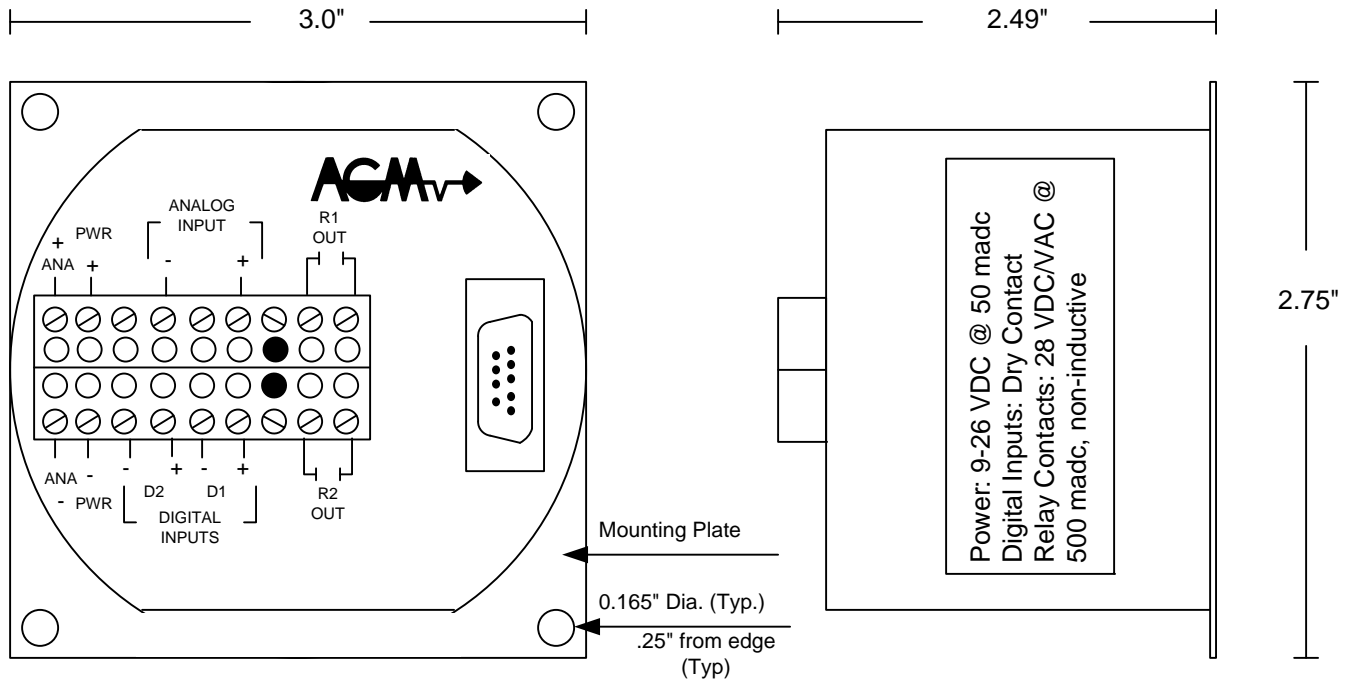
ZeroInp(0.0000) : This message will be displayed to prompt you to set the zero scale engineering units.

FullInp(100.0000) : Enter in the desired value for datalogging when the input is at full scale. This will complete the calibration process.

Radio Communications ? (N): The default is NO. If "Y" is entered the RTS delay will need to be answered. POWER MUST BE RESET in order for the new configuration to take effect.

RTSdly: X1.7msec: Enter the RTS delay used in radio communications. This value should be set to zero if a radio modem is not used. The entered value is multiplied by 1.7 msec. The maximum entry for RTS delay is 255 (255 x 1.7 = 433.5 msec).

Dimensions

3.0"   2.49"   2.75"

ACM℠ᵥ→

ANALOG INPUT
PWR
+
ANA   +   −   +   R1 OUT

ANA −
− PWR   D2   D1   R2 OUT
DIGITAL INPUTS

Mounting Plate

0.165" Dia. (Typ.)

.25" from edge (Typ)

REFER TO WSD 30083-1

Power: 9-26 VDC @ 50 madc
Digital Inputs: Dry Contact
Relay Contacts: 28 VDC/VAC @ 500 madc, non-inductive

Data Handler Operations

The Data Handler (SPM 9000-D2N) is designed to transfer one analog and one digital contact to a remote 'TRANSVERTER' model SPM 9000-D2I for current and (V) for voltage output. The communication carrier is a lease line modem or radio modem and requires a transparent communication channel. The analog input is averaged over a customer selectable time delay and transmitted to the TRANSVERTER' based on an adjustable communication interval. A digital input will be transfered to a digital output on the opposite side at each communication interval. A communication fault will become active whenever the communication channel is interupted. During setup the operator can request the status of the analog and digital inuts and the digital outputs. The setpoints and calibration are operator adjustable through the RS232C communiction port. The DATATRAN is addressed as 1.

Active Commands

Command	Description	Results
$1 VERS	**Data handler version**	**Display Version of Data Handler**
$1 CD	**Configure Data**	**Enable Configure Routines**
$1 RD	**Read Data**	**Displays analog input and output**
	Format	**'IN= Analog input = Filtered analog**
	1=Close, 0=Open	**D1 = 1 or 0 = Local digital input**
		D2 = 1 or 0 =Local digital input
		R1 = 1 or 0 = Remote digital input
		R2 = 1 or 0 = Communication Failure