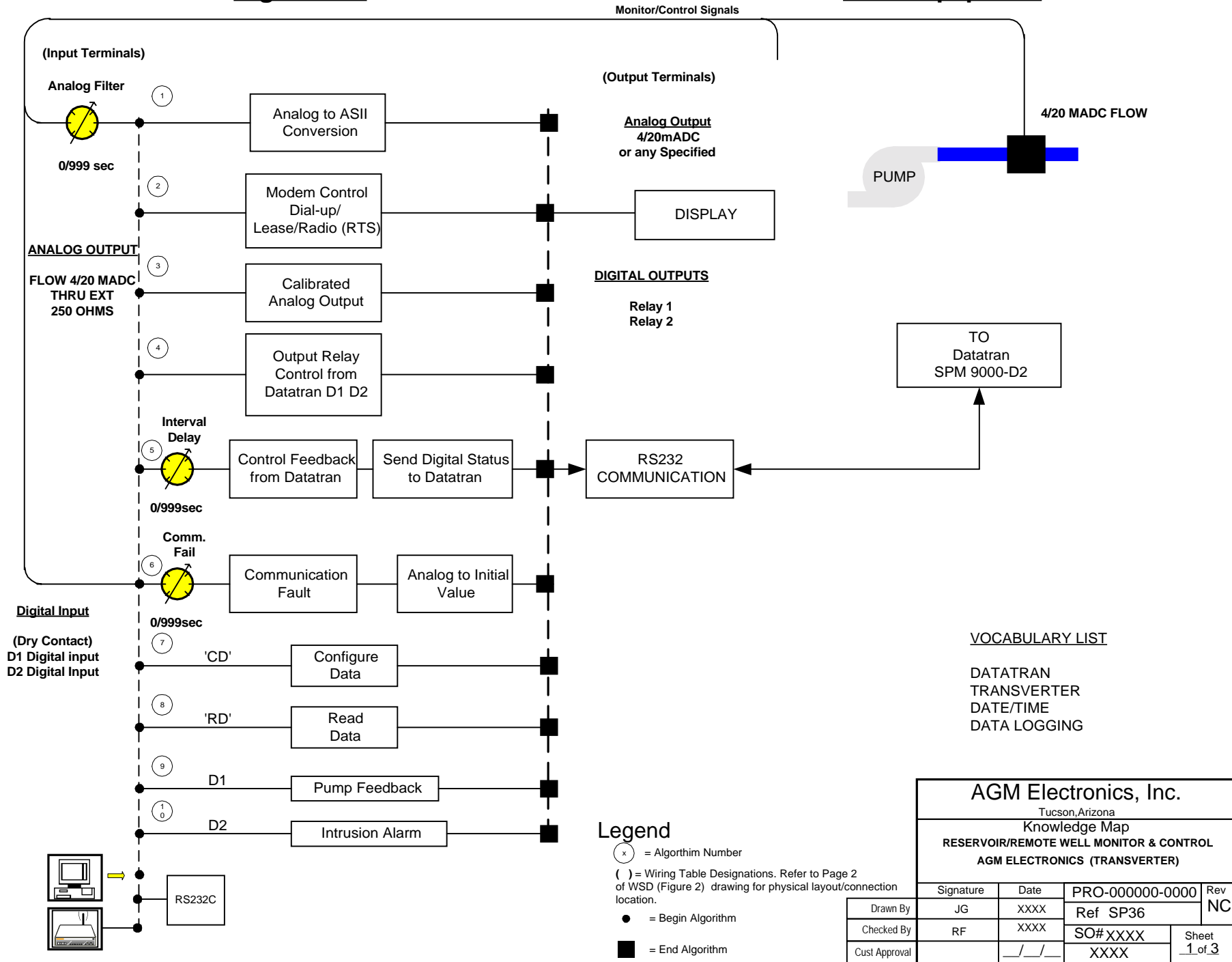


Algorithms

Field-Equipment



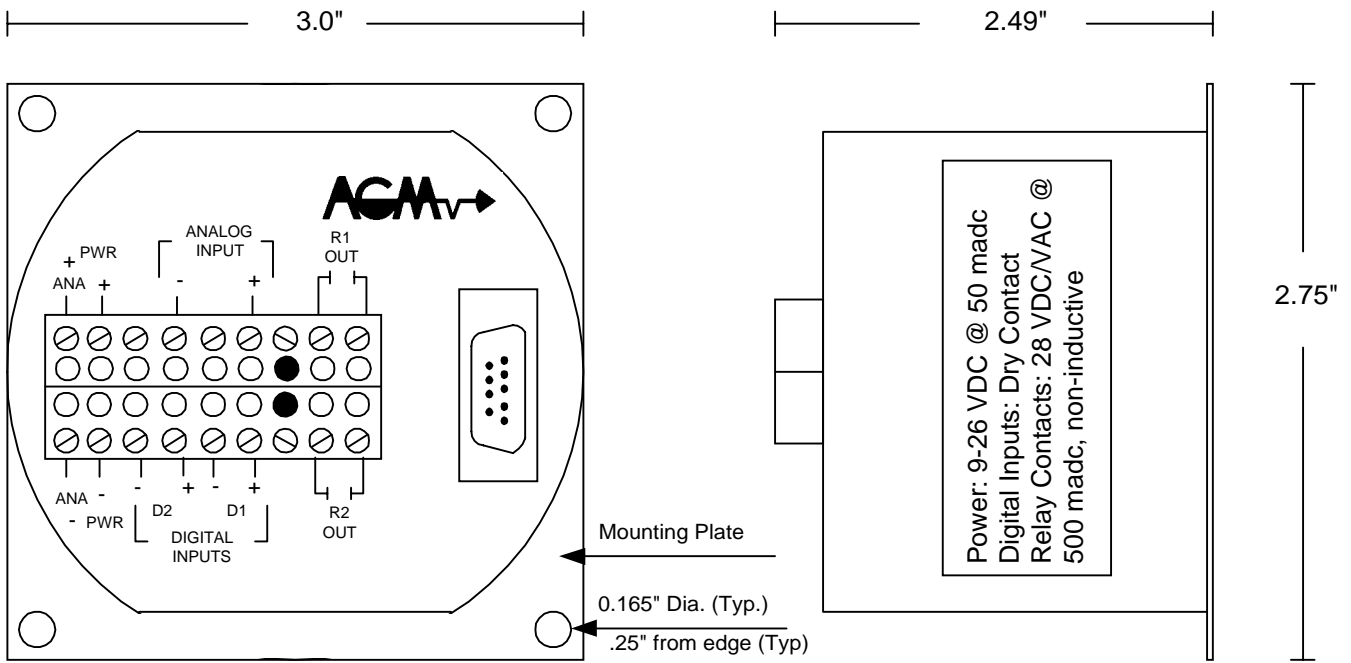
VOCABULARY LIST

DATATRAN
 TRANSVERTER
 DATE/TIME
 DATA LOGGING

AGM Electronics, Inc.

Tucson, Arizona
 Knowledge Map
 RESERVOIR/REMOTE WELL MONITOR & CONTROL
 AGM ELECTRONICS (TRANSVERTER)

| | | | |
|---------------|------|-----------------|----------|
| Signature | Date | PRO-000000-0000 | Rev |
| Drawn By | JG | XXXX | NC |
| Checked By | RF | XXXX | Ref SP36 |
| Cust Approval | | SO# XXXX | Sheet |
| | | XXXX | 1 of 3 |



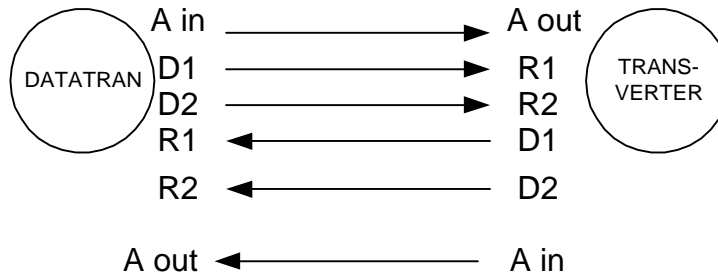
REFER TO WSD 30083-1

Data Handler Operations

The Data Handler (SPM 9000-D2I) 'TRANSVERTER' model SPM 9000-D2I for current or (V) for voltage output. is designed to transfer two digital signal and output one analog signal from a local 'DATATRAN' model SPM 9000-D2I. The communication carrier is a dial-up / lease line mode or radio modem. The digital input will be transferred to digital output on the opposite side at each communication interval. A communication failure is active when the communication carrier is interrupted. During setup the operator can request the status of the analog/digital inputs and the digital outputs. The setpoints and calibration are operator adjustable through the RS232C communication port. The TRASVERTER is addressed as 2

Active Commands

| Command | Description | Results |
|----------|--|---|
| \$2 VERS | Data handler version | Display Version of Data Handler SP5RH V1.46 |
| \$2 CD | Configure Data | Enable Configure Routines |
| \$2 RD | Read Data Format 1=Close, 0=Open | Displays analog input and output 'IN= Analog input = Filtered analog D1 = 1 or 0 = Local digital input R1 = 1 or 0 = Remote digital input R2 = 1 or 0 = Communication Failure |



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|---------------|-------------|-----------------|--------|
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| Cust Approval | ___/___/___ | | 2 of 3 |

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Tucson, Arizona

Front Panel Notes
RESERVOIR/REMOTE WELL MONITOR & CONTROL
AGM ELECTRONICS (TRANSVERTER)

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=300, D=300, R=120.

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 length 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.

Modem Init String: : Enter an initialization string when a modem is used. The string can be 25 characters long and contain any type of character. TYPICAL: L=ATA, D=ATE0V0, R=(none).

CallInp (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 replay “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.

Initial Analog (): Enter the engineering units for the analog output at power up or if communication fail occurs.

ZeroOut(655): Enter a number between 0 and 4096. This is used by the digital to analog converter to generate the analog output (ie. 4/20 mADC). Example an entry of 660 will produce an analog output of approximately 4mADC.

FullOut(3285): Enter a number between 0 and 4096. This is used by the digital to analog converter to generate the analog output (ie. 4/20 mADC). Example an entry of 660 will produce an analog output of approximately 20mADC.

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).

| | | | | |
|---------------|-----------|----------|-----------------|--------|
| | Signature | Date | PRO-000000-0000 | Rev |
| Drawn By | JG | XXXX | Ref SP36 | NC |
| Checked By | RF | XXXX | SO# XXXX | Sheet |
| Cust Approval | | __/__/__ | XXXX | 3 of 3 |

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|---|
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| Front Panel Notes RESERVOIR/REMOTE WELL MONITOR & CONTROL AGM ELECTRONICS (TRANSVERTER) |