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## **Control.com Blog References**

### **Communications systems and equipment.**

#### **COMM: 4-20 to modbus converters**

I am looking for some sort of a modbus converter that takes the 4-20 signal from a radar level and converts it to modbus. I am not sure if there is anything out there that can be used for this. If you have any info on this topic please let me know.

<http://www.control.com/thread/1241818354#1241865934>

#### **COMM: Ethernet I/O Devices**

I'm currently in the process of building a data handler(DH) for an oceanographic application. In the DH, the data streams from several instruments(RS-232,RS-485, and analog voltages) are converted to an ethernet data stream. The DH consists of a pressure case (which limits space), a serial server, an Advantech ADAM-6017 Ethernet IO device, and an ethernet switch.

Well, the requirements recently changed and the 10Hz sample rate of the ADAM-6017 is no longer sufficient. We need at least 200Hz. One difficulty is that I need a device approximately the same size as the ADAM-6017 (~4.75"x3"x1.25") or it simply won't fit. I've looked at LabJack, Dataq, B&B Electronics and others and I haven't found anything quite like what I need. Frankly, there's quite a lot to sift through and I thought some advice from those with more experience would be useful. 200Hz isn't really that fast. I would think it would be fairly straightforward, but my size limitation has not helped.

I might be able to fit a VERY small device in addition to the ADAM-6017.

<http://www.control.com/thread/1246393063#1246401506>

#### **COMM: Ethernet topology**

I wanted to know which topology is best for optical ethernet ring system. Is it better to use dual redundant ring or fault tolerant ring?

<http://www.control.com/thread/1224731107#1225216476>

#### **COMM: PC (.NET) comm with A-B CompactLogix**

We are a small company integrating vision and robotic systems into customer production lines. We have a query from a customer, who wants a PC-based vision system to communicate with his A-B CompactLogix series 1768 with 1768-ENBT Module. The communication requirements are very simple, about 10 digital I/O lines. What is the cheapest and most simple option regarding communication interface on the PC (.NET)? Ethernet/IP based communication? OPC server on the PC? I've looked at the .NET controls from automated solutions, but cannot decide whether they are completely overkill for my purpose or there exist some simpler means.

<http://www.control.com/thread/1225095399#1225211372>

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### **COMM: Power and Bus Control over two wires?**

I need to control solenoid valves in an irrigation system over an existing two wire network. There is an existing irrigation control that does this now, but is very limited when it comes to any sort of complicated control functions, like moisture inputs, etc. The client wants to replace all of it with a new system that will tie into an existing iFix HMI.

What protocols or options are there for doing this? There are some runs that have up to 90 valves daisy chained together...almost 800 valves split up over several networks (13 I think?). From what I can gather, the existing controller sends out a "pulse" to both tell the correct valve to open, plus actually swap the valve state.

<http://www.control.com/thread/1241064213#1241092781>

## **Engineering and workplace issues.**

### **ENGR: Circuit Design**

I know the Electronics to condition any DC Signal to generate 4 - 20mA. But now I have a problem at hand where in I have to convert a 0 - 5A AC signal to 4 - 20mA. I know I can directly use a transducer for the same. But I wish to do it myself. I would like to have some circuit idea for converting 0 - 5A AC to some DC signal which I can further convert to 4 - 20mA. What are the safe and most commonly adpoted methods to achieve this.

<http://www.control.com/thread/1223823690#1223909636>

## **Motion control, servos, steppers, etc.**

### **MOTION: No Start and Stop Available**

Drive in question is a Altivar 61. Reference signal to the drive is currently coming from our Bailey DCS (4-20 mA). There is not a remote start and stop. Currently the drive must be started locally then uses the reference for speed control. Is there a way to program the drive to be stopped with a minimum reference and start when the reference is above the minimum. Currently we only tell the drive to run at 0 HZ when the no product is needed. Am worrying about damage to motor while operating at these conditions.

<http://www.control.com/thread/1226420636#1226522554>

## **PCs in Automation**

### **PC: QNX Configuration software**

I am looking at upgrading a QNX based control system for a cushion on a large press. The builder has used a S5 PLC for most of the control with a PC running QNX for the cushion control. QNX has also been used for a visualisation system. I know that the qnx is basically a deterministic operating system. Does anyone know what application might have been used to create the system. I need to access the source code so that I can have a chance at re-writing it. Currently the customer has no way to modify the code

<http://www.control.com/thread/1243872305#1246990648>

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## PLCs and related questions.

### PLCs: Ethernet remote I/O for a SLC 5/05

I know that plenty of companies make ethernet remote I/O but my AB rep says that the ethernet port on the SLC 5/05 is for programming only and there is no product available which will interface ethernet I/O with the SLC. I can't believe this could be true, surely somebody makes an interface that will work. Can somebody give me a suggestion?

<http://www.control.com/thread/1026148254#1244203526>

### PLCs: Sinking 12v via AB Micrologix 1200 Relay Output Card

I have an AB Micrologix 1200 PLC and need to find an Output Relay card that will take in a number of 12v signals and sink them to zero volts, when I switch the output in the program.

I have had a look on the AB website and can't find what I am looking for in the 1200 range. Does anybody know if a Sink output card is available for this range, if not is there another model of PLC that will have a card that will do what I need?

<http://www.control.com/thread/1223889095#1223910326>

## Power generation equipment control.

### PGEN: DCS powered vs. field powered

What is the difference between DCS powered and field powered?

<http://www.control.com/thread/1223462577#1223564147>

## Continuous process industries, DCS questions.

### PROC: Analog output dropping in value

An AB 1746-NO8I analog output module will output 4-20mA correctly but after 30 minutes or so the output will steadily drop until no more than 11mA will be output. All 8 channels affected. Replaced PLC power supply. Replaced rack. Module is new. External 24VDC loop power. Switched to internal power and rewired output, same problem. AB techsupport is stumped and so are we. Output is linear but max out is 11mA.

<http://www.control.com/thread/1240932579#1240953118>

## Sensor technologies.

### SENSOR: 4-20 mA

I need connect a sensor with a PLC by 4-20mA. The PLC is a 250 mts from sensor, it is possible?

<http://www.control.com/thread/1241522181#1241524249>

### SENSOR: Load cell millivolt signal conditioner

I am trying to connect load cell to PLC analog input module with millivolt input capacity. But the variations of received values are beyond acceptable limits. Can someone please tell me how I can make this value steady so that it can be used in a PLC program?

<http://www.control.com/thread/1222327221#1223641474>

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**SENSOR: modbus cable terminations**

Is there a bottom line on proper termination of the shield/ground wire for modbus comm cable. Is it different for sensors? I've read conflicting articles about this.

<http://www.control.com/thread/1224399904#1224526345>

**SENSOR: Temperature Alarm system**

I'm looking for a Temperature meter to monitor un-attended substations temperature and report an alarm (o/p contact) to the disparture when temp. exceed a Certain degree. this signal will be connected to substation RTU.

Specifications:

Operating voltage range 90-130 VDC

Ambient temperature -10°C ~ 55°C.

Meter alarm point Configurable

Any suggestion about a such meter will be Appreciated.

<http://www.control.com/thread/1246880332#1246979858>

**SENSOR: Using I/S barrier as lightning protection**

We're in the US midwest and have to deal with lightning from summer thunder storms.

Our corn silos all have lightning arrestors installed and ground rods driven all over the place, but last week we took a hit somewhere that demolished an ultrasonic level sensor, along with a couple of AI cards, the loop power supply and the PLC controller module. The energy apparently went from the silo mounted level transmitter through the 4-20mA wiring to the controller.

I'm prepared to take the loss of the sensor and a power supply, but I was wondering if standard, commercial I/S barriers in the signal loop are likely to act as fast fuses which could prevent the energy from blowing up the AI's and controller. Any thoughts?

David

<http://www.control.com/thread/1247095795#1247145499>