

**Q How to solve the Modbus TCP communication issue when PLC-S Ethernet module (CM3-SP01EET / Modbus TCP Master) and third party devices (Modbus TCP Slave) are turned on power together and will not communicate?**

**A Use the Yx4 contact (Modbus Master Restart Request Flag).**

For example, on a PLC-S using the Ethernet card (CM3-SP01EET) as a Modbus TCP Master, it is connected to 5 variable frequency drives (VFD) as Modbus TCP Slaves.

Power is turned off on all devices. When the power is turned back on the PLC-S and the VFD's at the same time, SP01EET cannot communicate with the VFD's unless the Run switch on the PLC-S is turned to Stop and then back to Run. To fix the problem temporarily, a user put a delay timer on the power to the PLC so that SP01EET is turned on power later than the VFD's.

### SP01EET I/O Signal

Direction of Signal(CPU←Module)		Direction of Signal (CPU→Module)	
Input	Name of Signal	Output	Name of Signal
X0	Module Error	Y0	Requesting to clear error
X1	Finishing Initialization	Y1	
X2		Y2	
X3		Y3	
X4		Y4	Modbus Master Restart Request
X5		Y5	
X6		Y6	
X7		Y7	
X8		Y8	
X9		Y9	
XA		YA	
XB		YB	
XC		YC	
XD		YD	
XE		YE	
XF	Finishing Parameter Save	YF	Requesting Parameter Setup

In this case, use the Yx4 contact which is a flag to restart the Modbus Master communication. If your SP01EET module is located in Slot #1 next to CPU (Slot 0), then this flag will be Y14. Turn this Y14 ON and OFF for 1 second in the scan program, then it will restart Modbus TCP Master Communication even after turning on and off the all devices at the same time. The 'Modbus Master Restart Request flag' has been added in the firmware V4.03 and above for SP01EET.