- Retain data without power for up to 95 years
- 1 000 000 000 000 (10^{12}) read/write cycles; far superior to standard EEPROM
- 64 kilobits of memory
- Can be used for logging, storing configuration values, saving counters, storing accumulators, etc.
- Modbus RTU slave on RS-485
- DIN rail mountable

The KTA-299 provides 64k of non-volatile memory, accessable via Modbus RTU. The memory space is arranged as Modbus Holding Registers, allowing easy reading and writing from any industrial controller, SCADA System, etc. Data is retained in memory without power for up to 95 years (at 55°C).

The memory is stored internally using a new technology known as Ferromagnetic RAM. The advantage of FRAM over more traditional non-volatile memories such as EEPROM is that it can be written and read millions of times without wearing out and failing.

Connections:

The lower label on the front sticker depicts the closer terminal. For example, V+ is the closer terminal to the front sticker, GND is further away.

Name	Description
V+	8 to 28 V DC power
GND	Ground
D+	RS-485 Data+
D-	RS-485 Data+
RST	Communications reset. Short to ground to reset Modbus comms to default
NC	No Connection; unused
NC	No Connection; unused
Comms LED	Flashes when there is activity on RS-485

Holding Registers:

Register Number	Register Name	Description	Default
40001 to 41000	Memory Space	Read/write persistent memory	0 (blank)
41001	Modbus Address	Acceptable values: 1 to 247	100
41002	Baud Rate	1 = 2400 2 = 4800 3 = 9600 4 = 19200 5 = 38400 6 = 57600	9600
41003	Parity	1 = No Parity 2 = Even Parity 3 = Odd Parity	1 (None)
41004	Set Values	Write to a 1 to set the comms values to registers 1001, 1002, and 1003. If successful, this register will read as a 2.	0
41005 to 44096	Memory Space	Read/write persistent memory	0 (blank)

Setting Modbus Communications Parameters:

By default, the KTA-299 will communicate at:

Address: 100
Baud rate: 9600
Parity: None

These settings can be altered by writing to Modbus Holding Registers 1001, 1002, 1003, and 1004. Write your preferred address, baud rate, and parity respectively to these Holding Registers. Writing register 25 to a one will commit the values to the slave.

Should any problems occur, the slave can be returned to its default comms settings by shorting the reset pin to ground momentarily.

Specifications

Power Supply	Min	Typ	Max	Unit
Voltage	8	24	28	V
Current Draw		30	100	mA
Operating Temperature	-20	25	80	C

RS-485 Transceiver	Min	Typ	Max	Unit
Driver Current			28	mA
Symbol Rate	2400	9600	57600	Baud
Data Bits		8		
Parity		None	Odd, Even	
Stop Bit		1		

Data Persistence	Temperature
10 Years	85°C
95 Years	55°C
Over 200 Years	35°C