

The following table compares 'equivalent' models between the SR and APB product families.

| PRODUCT | Description | | | | SR | APB | \$ Diff |
|---------------|---------------|-----------------|--------------|---------------------------------------|------------|------------|-----------|
| | PWR | IN | OUT | Features/Description | | | |
| 12MRA | 120 AC | 8 | 4 RL | AC, Basic unit, Relay Out | 75 | 85 | 14 |
| 12MRD | 24 DC | 8(6) | 4 RL | DC, Basic unit, Relay Out | 65 | 79 | 14 |
| 12MTD | 24 DC | 8(6) | 4 NPN | DC, Basic unit, NPN Out | 65 | 79 | 14 |
| 12MGD | 24 DC | 8(6) | 4 PNP | DC, Basic unit, PNP Out | 65 | 79 | 14 |
| 12MRAL | 120 AC | 8 | 4 RL | AC, Basic, Relay Out, w/HMI | 89 | 99 | 14 |
| 12MRDL | 24 DC | 8(6?8) | 4 RL | DC, Basic, Relay Out, w/HMI | 85 | 99 | 14 |
| 12MTDL | 24 DC | 8(6?8) | 4 NPN | DC, Basic, NPN Out, w/HMI | 85 | 99 | 14 |
| 12MGDL | 24 DC | 8(6?8) | 4 PNP | DC, Basic, PNP Out, w/HMI | 85 | 99 | 14 |
| 22MRA | 120 AC | 14 | 8 RL | AC, Expanded unit, Relay Out | 114 | 138 | 24 |
| 22MRD | 24 DC | 14(8?12) | 8 RL | DC, Expanded unit, Relay Out | 105 | 129 | 24 |
| 22MTD | 24 DC | 14(8?12) | 8 NPN | DC, Expanded unit, NPN Out | 105 | 129 | 24 |
| 22MGD | 24 DC | 14(8?12) | 8 PNP | DC, Expanded unit, PNP Out | 105 | 129 | 24 |
| 22MRAL | 120 AC | 14 | 8 RL | AC, Expanded, Relay Out, w/HMI | 129 | 149 | 24 |
| 22MRDL | 24 DC | 14(8?12) | 8 RL | DC, Expanded, Relay Out, w/HMI | 123 | 145 | 24 |
| 22MTDL | 24 DC | 14(8?12) | 8 NPN | DC, Expanded, NPN Out, w/HMI | 123 | 145 | 24 |
| 22MGDL | 24 DC | 14(8?12) | 8 PNP | DC, Expanded, PNP Out, w/HMI | 123 | 145 | 24 |
| 20?22ERA | 120 AC | 12 | 8 RL | AC Expansion Module, Relay Out | 89 | 95 | 6 |
| 20?22ERD | 24 DC | 12 | 8 RL | DC Expansion Module, Relay Out | 85 | 91 | 6 |
| 20?22ETD | 24 DC | 12 | 8 NPN | DC Expansion Module, NPN Out | 85 | 91 | 6 |
| 20?22EGD | 24 DC | 12 | 8 PNP | DC Expansion Module, PNP Out | 85 | 91 | 6 |

The following tables summarizes the differences (hardware & software) between the SR products and the APB products.

| I/O CAPABILITY | Digital Inputs | H.S. Inputs | Analog Inputs | 4-20 mA Inputs | Digital Outputs | H.S. Outputs | 4-20 mA Outputs |
|----------------|----------------|-------------|---------------|----------------|-----------------|--------------|-----------------|
| SR-12MxD | 8 | | 6 | | 4 | | |
| SR-22MxD | 14 | | 8 | | 8 | | |
| SR-20ExD | 12 | | | | 8 | | |
| APB-12MxD | 8 | 4 | 8 | | 4 | 2 | |
| APB-22MxD | 14 | 4 | 12 | | 8 | 2 | |
| APB-24MRD | 14 | 4 | 12 | 2 | 6 | 4 | 2 |

| | | | | | | | |
|-----------|----|---|--|--|---|--|--|
| APB-22ExD | 14 | 8 | | | 8 | | |
|-----------|----|---|--|--|---|--|--|

| SOFTWARE CAPABILITY | SR Family | APB Family | Comments |
|----------------------------------|------------------|-------------------|--|
| Number of Blocks | 128 | 320 | |
| Programming Support | SuperCAD | APB Cad | APB provides multiple programming pages, support for Math on analog, Data Registers for intermediate values, greater flexibility in having program VARIABLES affect control flow (timer values etc.) |
| Real Time Clock | X | X | APB provides battery backup option. SR relies on 'supercap' technology (~ 100 hours). |
| AND | 4 inputs | 8 inputs | For SR products, each 'logical' function block supports 4 inputs. For APB products, each 'logical' function block supports 8 inputs, eliminating the need to chain blocks in more complex expressions. For example, if an OUTPUT is to be activated if 5 inputs are active the SR controller would require 2 AND blocks and an OR block whereas the APB controller would accept the 5 inputs into 1 AND block. An 'X' indicates equivalent functionality. A '-' indicates the unit does not support the feature. |
| AND (Borderline Detect) | 4 inputs | 8 inputs | |
| OR | 4 inputs | 8 inputs | |
| NOT | X | X | |
| XOR | X | X | |
| NAND | 4 inputs | 8 inputs | |
| NAND (Borderline Detect) | 4 inputs | 8 inputs | |
| NOR | 4 inputs | 8 inputs | |
| OR (Rising Edge Detect) | - | 8 inputs | |
| OR (Falling Edge Detect) | - | 8 inputs | |
| ON Delay (TOND) | X | X | Delay the turn-on of a signal |
| OFF Delay (TOFD) | X | X | Delay the turn-off of a signal |
| ON/OFF Delay (TONF) | - | X | Delay turn-on and turn-off of a signal |
| ONE SHOT (PONS) | X | X | Generate pulse when triggered |
| Single P.B. (SPBL) | X | X | Toggle output on each input trigger |
| Blinker (BLNK) | X | X | Generate constant pulse output when active |
| Delay Maintain (MTOD) | X | X | Single pulse output |
| RS Relay (TPBL) | X | X | Set/Reset flip/flop |
| Counter (UDCT) | X | X | Up/Down counter |
| Scheduler (SCHD) | X | X | Time based scheduler (128 presets day/week/yr) |
| Time Sequence (TSEQ) | X | X | Time based sequencer (8 outputs) |
| Step Sequence (SSEQ) | X | X | Pulse based sequencer (8 outputs) |
| Hour Adjust (HOUR) | X | X | Adjust RTC hour +1 |
| Timer/Counter Compare (T/C-CMPR) | X | X | Compare analog/timer/counters |
| Light Sequencer (STLT) | - | X | 3 Stage Time-ON-Time-OFF-Time_ON |
| Multi-function (MULT) | - | X | Special function Timed sequence |

| | | | |
|-------------------------------|---|---|---|
| LCD Editor (SLCD) | X | X | APB is bit mapped graphics |
| Freq. Threshold Trigger (FTH) | – | X | Frequency checking |
| A+ B- Counter (A+B-) | – | X | Complex counter |
| Tow-phase Counter (2PCT) | – | X | Complex counter |
| Pulse PTO Output (PTO) | – | X | Pulse Output |
| PWM Output (PWM) | – | X | Pulse Width Modulated output |
| Accel/Decel Pulse (ACC) | – | X | Frequency generation |
| Analog Comparator (CMPR) | – | X | Compare analog values |
| Analog Threshold (THRD) | – | X | Analog Threshold detection |
| Analog Amplifier (AMPT) | – | X | Analog Amplifier |
| Analog Watchdog (AWDT) | – | X | Analog watchdog with hysteresis |
| Analog Multiplexer (AMUX) | – | X | Analog multiplexer |
| Analog Differential (WARP) | – | X | Differential Amplifier |
| Analog Math (MATH) | – | X | 4 operand/3 operator math equation evaluation |
| Digital Input (IN) | X | X | APB supports wider range of mapping |
| Digital Output (OUT) | X | X | APB supports wider range of mapping |
| Analog Input (AI) | – | X | APB supports wider range of mapping |
| Analog Output (AO) | – | X | APB supports wider range of mapping |
| Blank Output (X) | – | X | Internal holding |
| Register (D) | – | X | Internal holding register |
| Remote Control Input (RCL) | X | – | APB has no remote control |
| Telephone Dialer (DOUT) | X | – | APB uses SMS module |
| Telephone Interface (D-IN) | X | – | APB uses SMS module |
| Message Player (PMSG) | X | – | APB has no voice output |
| Interconnect (CONT) | X | – | APB has BLANK OUPUT (X) |
| SMS Module Interface (SMS) | – | X | SMS provides direct access to Cell Phone network thru the APB-SMS module. |
| --- | X | X | Modbus interface accesses Function Block internal Registers. Use of D registers with APB greatly expands this capability. |