H09R00 AC Solid-state Relay

Technical Specifications

- Five array ports and six power ports (+3.3V and GND).
- Access to 5xUART, 2xI²C, SWD, BOOT0, RESET.
- Panasonic AQH3213ARGB solid-state relay (SSR):
  - 600 V AC peak OFF-state voltage.
  - 1.2 A ON-state RMS current.
  - 100 µsec maximum turn-on time.
  - Zero-crossing detection.
- Yellow indication LED for SSR state.
- SSR load connector: TE Connectivity/AMP 2-position 5.08mm shrouded header.
- STM32F091CBU6 MCU.
- 8MHz external oscillator.
- Panasonic AQH3213ARGB solid-state relay (SSR):

Available colors: 

Commands use with any serial terminal software

```c
command parameter1 parameter2 ...
```

- **on timeout**
  
  Turn SSR on with a `timeout` (ms). Use `portMAX_DELAY = 0xFFFFFFF` for indefinite timeout.

- **off**
  
  Turn SSR off.

- **toggle**
  
  Toggle SSR.

- **ledmode mode**
  
  SSR indicator LED `mode` (ON, OFF).

- **pwm dutycycle**
  
  Control SSR with a 24 KHz PWM signal with % `dutycycle` (0–100).

Examples for inter-array communication

```c
code, parameter1 [value], parameter2 [value], ...
```

- **CODE_H09R0_ON, timeout**
- **CODE_H09R0_OFF**
- **CODE_H09R0_TOGGLE**
- **CODE_H09R0_PWM, dutycycle**

Examples

```c
// Timeout 10 seconds
messageParams[0] = (uint8_t)(10000>>24);
messageParams[1] = (uint8_t)(10000>>16);
messageParams[2] = (uint8_t)(10000>>8);
messageParams[3] = (uint8_t)(10000);
SendMessageToModule(BOS_BROADCAST, CODE_H09R0_ON, 4);
```

APIs getting your hands dirty!

```c
output API_function(inputs)
```

- **H09R0_Status SSR_on(uint32_t timeout)**
- **H09R0_Status SSR_off()**
- **H09R0_Status SSR_toggle()**
- **H09R0_Status SSR_PWM()**

Examples

```c
SSR_PWM(50);
SSR_off(); SSR_on(10000);
```