in dcmotor.c

```
/**
 *  \brief (Helper) Convert duty cycle to phase based cycle
 *
 *  The 'normal' algorithm uses the motor controller as follows:
 *   - pwm0 signal into PWM to control speed (0 to pwm_period)
 *   - direction bit into PHASE to control direction
 *
 *  The phase approach uses:
 *   - PWM is a 0/1 on/off switch
 *   - pmw0 signal is fed into the PHASE input to control both speed and
 *     direction. 50% duty cycle is stop, 100% is full in one direction, 0
 *     is full in the opposite direction.
 *
 *  \notes
 *  This routine requires a duty value between 0 and the maximum PWM period.
 *
 *  \param[in]  motor_id     Motor ID
 *  \param[in]  reg_duty_val Duty value (must be 0 to PWM period)
 **/
static uint32_t dcmotor_duty_to_phase(dcmotor_t *dcmotor, uint32_t reg_duty_val)
```

```
/**
 *  \brief DC Motor PWM Algorithm select
 *
 *  Selects the method used to apply the PWM (and direction) signals to the
 *  motor controller.  In the normal mode, PWM is applied to PWM (enable) and
 *  Direction is applied to phase.  In the Phase mode, the PWM signal is applied
 *  to the phase input. Phase mode may be useful for motor controllers that do
 *  not support any automatic current recirculation modes.
 **/
typedef enum {
        DC_PWM_NORMAL = 0,              /**< PWM signal applied to PWM      */
        DC_PWM_PHASE,                   /**< PWM signal applied to PHASE    */
        DC_PWM_LAST_ENUM = 0xFFFFFFFF  /**< Force enum to be 32 bits in size */
} motor_pwm_out_t;
```

in dcmotor.c/dcmotor_create_motor()

```
        /* Configure the PWM output method (quick copy of mtr conect value) */
        dcmotor->pwm_method = dcmotor->mtr_connects->pwm_type;
```

in dcmotor_sys.c/dcmotor_read_motor_connect()

```
        node = of_get_child_by_name(parent_node, "dcmotor_connect");

        if (of_property_read_u32(node, "pwm_type", &connect->pwm_type) != 0) {
                pr_err("Failed to read property pwm_type\n");
                res = -ENODATA;
        }
```

而在dts中

无论是paper modtor还是mirror motor

```
1.  pwm_type = <DC_PWM_NORMAL>;
```

normal pwm:

The 'normal' algorithm uses the motor controller as follows:

- pwm0 signal into PWM to control speed (0 to pwm_period)
- direction bit into PHASE to control direction

即用pwm的占空比来控制dc motor的转速

direction bit into PHASE to control direction，不理解???

The phase approach uses:

- PWM is a 0/1 on/off switch
- pmw0 signal is fed into the PHASE input to control both speed and direction. 50% duty cycle is stop, 100% is full in one direction, 0 is full in the opposite direction.

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