# Abstract DC Drive CAN message formatting

ID<sub>B</sub> - broadcast ID

ID - Individual ID

**offset** – unique number for each drive in CAN. Set in **can.c.** 

By default not extended IDs are used.

### 1. Setting the PID parameters ( $ID_B = 200$ , ID = 200 + offset)

4.77	47   46   45   44   43   42   41   40   39   38   37   36   35   34   33   32														
4/	46	45	44	43	42	41	40	39	38	3/	36	35	34	33	32
	TYPE [31:24] FIELD[23:16]														
31   30   29   28   27   26   25   24   23   22   21   20   19   18   17   16															
VALUE[31:16]															
15   14   13   12   11   10   9   8   7   6   5   4   3   2   1   0															
VALUE[15:0]															

Bits 47:40 **TYPE** Type of PID that is being configured

0000 0001: Speed PID0000 0011: Current PID0000 0100: Position PID

Bits 39:32 FIELD Field of PID that is being configured

0000 0000: Proportional coefficient0000 0001: Integral coefficient0000 0011: Differential coefficient

**0000 0100**: Coefficient on which will be divided all coefficients. Must not be 0

**0000 0101:** Number of measurement that is used to find average value and than used as feedback data (used only in the current PID)

Bits 31:0 **VALUE** Value to be set (int32\_t)

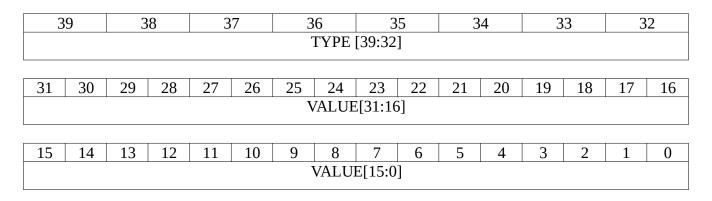
## 2. Save settings of a PID to FLASH ( $ID_B = 200$ , ID = 200 + offset)

7 6 5 4 3 2 1 0											
TYPE [7:0]											

Bits 7:0 **TYPE** Type of PID which settings should to be set

0000 0001: Speed PID0000 0011: Current PID0000 0100: Position PID

# 3. Setting desired value of PID ( $ID_B = 100$ , ID = 100 + offset)



Bits 39:32 **TYPE** Type of PID desired value of which should be set. This also switch PID mode of the drive to this type.

**0000 0000**: None (apply 0 voltage)

0000 0001: Speed PID0000 0011: Current PID0000 0100: Position PID0000 0101: Direct control

Bits 31:0 **VALUE** Value to be set (int32\_t)

#### 4. 3. Request a LOG ( $ID_B = 900$ , ID = 900 + offset)

7 6 5 4 3 2 1 0												
TYPE [7:0]												

Bits 7:0 **TYPE** Type of LOG that should be requested.

0000 0001: Speed0000 0011: Current0000 0100: Position0000 0101: Voltage

### 5. LOG response

Speed log ID = 1024 + offset Postion log ID = 1152 + offset

Current log ID = 1280 + offset

Temperature log ID = 1536 + offset

Voltage log ID = 1664 + offset

VALUE[31:16]  15   14   13   12   11   10   9   8   7   6   5   4   3   2   1   0    VALUE[15:0]	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
	VALUE[31:16]															
VALUE[15:0]	15	14	13		11	10	9	8	7	6	5	4	3	2	1	0
	VALUE[15:0]															

Bits 31:0 **VALUE** Value of a response (int32\_t)