CALIBRATE_LONG

RES = CALIBRATE_LONG (value, start, adjustment, interval)

Function: Adjusts a LONG value (e.g. from Real Time Clock).

Parameters:

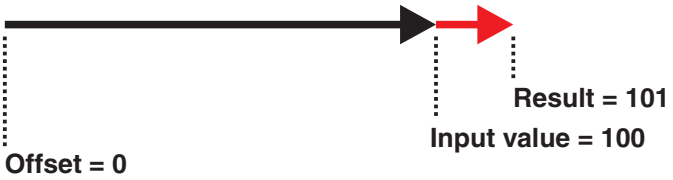
	B	W	L	S	F	
value	●	●	●	-	-	Input value to adjust
start	●	●	●	-	-	Starting point, from here adjustment begins. Values smaller than *start* are NOT adjusted.
adjustment	●	●	●	-	-	Adjustment value
interval	●	●	●	-	-	Interval over which the adjustment value is added. The added value is given by (interval / adjustment), thus intermediate steps are regarded.
						Function value:
RES	●	●	●	-	-	calibrated value

The function CALIBRATE_LONG adjusts a long counter, e.g. a real time clock. For every *interval*, *adjustment* is added to the input value. Intermediate steps are regarded, so e.g. an *adjustment* of 2 with an *interval* of 100 will lead to the same result as an *adjustment* of 1 with an *interval* of 50. The adjustment begins at the *start* value, values below the *start* value are NOT adjusted.

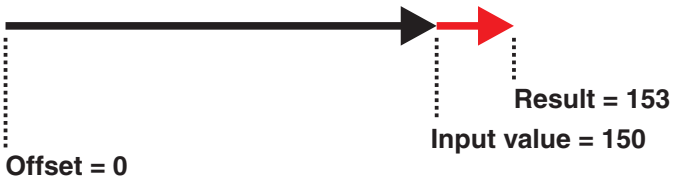
Example(*start* = 100, *interval* = 100, *adjustment* = 2)

Input value	Adjusted value	Comment
0	0	Value NOT adjusted
50	50	Value NOT adjusted
100	100	Here adjustment starts
150	151	Intermediate step
200	202	First full interval

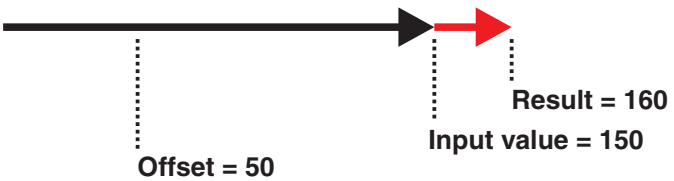
adjust: +1
interval: 100



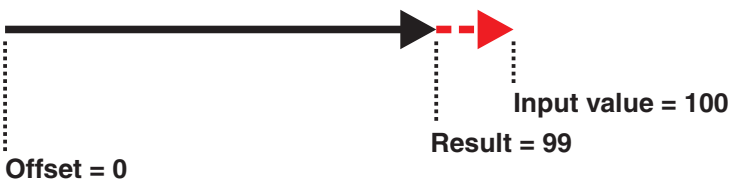
adjust: +2
interval: 100

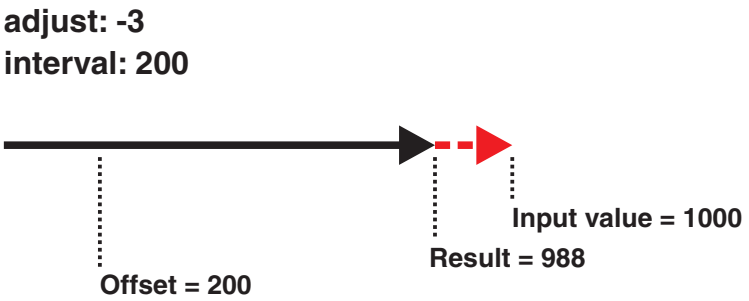


adjust: +5
interval: 50



adjust: -1
interval: 100





Example:

```
RES = CALIBRATE_LONG(200, 100, 1, 100)
```

Example(RTC runs 2 seconds too fast per day):

```
user_var_strict
#INCLUDE UFUNC4.INC                       ' User Function Codes
#INCLUDE DEFINE_A.INC                     '


TASK Main                                 ' Beginn Task MAIN
  LONG Seconds, Prev_Sec                  ' LONG-Variablen deklarieren
  LONG calibratedSeconds
  BYTE RTCSTAT
' LCD-Treiber installieren (BASIC-Tiger)
  INSTALL DEVICE #1, "LCD1.TDD"
' LCD-Treiber installieren (TINY-Tiger)
'  INSTALL DEVICE #1, "LCD1.TDD", 0, 0, 0, 0, 0, 0, 80h, 8
  INSTALL DEVICE #3, "RTC1.TDD"           ' install device driver

  RTCSTAT = RTC_INITIAL                   '
  WHILE RTCSTAT < RTC_NO_RTC              ' search RTC
    GET #3, #0, #UFCI_RTC_STAT0, 1, RTCSTAT ' get status of RTC
    PRINT #1,"<1>installing";             '
    WAIT_DURATION 200                     '
  ENDWHILE                                '
  IF RTCSTAT = RTC_PRESENT THEN           ' if RTC availiable
    Seconds = 12345678                    ' initial value
    PUT #3, Seconds                       ' set RTC time (seconds)
    RTCSTAT = RTC_BUSY                    '
    WHILE RTCSTAT = RTC_BUSY              ' while RTC is buse
      GET #3, #0, #UFCI_RTC_STAT1, 1, RTCSTAT ' read status of RTC
      PRINT #1,"<1>busy";                 '
      WAIT_DURATION 200                   '
    ENDWHILE                              '
    LOOP 9999999                          ' many loops
      Prev_Sec = Seconds                  ' save old time
      WHILE Seconds = Prev_Sec            ' while time has not changed
        GET #3,0, Seconds                 ' read out time from RTC
      ENDWHILE                            '
      PRINT #1,"<1>RTC-Time =<0>";Seconds ' show time from RTC

      ' calibrate time from RTC
      calibratedSeconds = CALIBRATE_LONG(Seconds, &     ' Input variable
      12345678, &               ' start (RTC was set to this initial value)
      -2, &                     ' adjustment (2 seconds too fast per day)
      86400)                    ' interval (1 Day = 86400 seconds)

      PRINT #1,   "Cal-Time =<0>";calibratedSeconds ' show calibrated time
    ENDLOOP                               '
  ELSE                                    ' no RTC
    PRINT #1, "<1>No RTC found"           '
  ENDIF                                   '
END                                       '
```