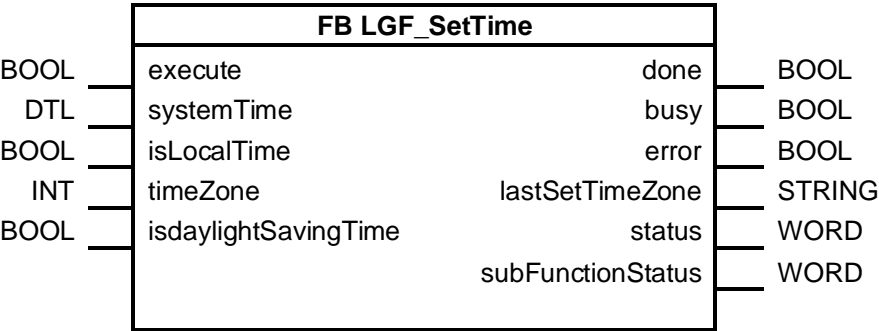


LGF_SetTime

Short description

This block combines the functions of system time, local time, and set time zone.

Block



Input parameters

| Parameters | Data type | Description |
|--------------------|-----------|--|
| execute | BOOL | A rising edge starts the action once |
| systemTime | DTL | System time to be set in the CPU |
| isLocalTime | BOOL | TRUE: System time is local time FALSE: System time is UTC time |
| timeZone | INT | Defined time zone (format [+HHMM]) Examples: <ul style="list-style-type: none">• UTC -12:00 [-1200]• UTC -03:30 [-330]• UTC [0]• UTC +13:00 [1300] |
| daylightSavingTime | BOOL | TRUE: Daylight saving time changeover active (local time + 60 min) <ul style="list-style-type: none">- from last Sunday in March at 02:00- until last Sunday in October at 03:00 FALSE: no daylight saving time changeover Note: For other local time zones, you must adjust the static variable "statTimeZone" in the interface of the block. (see Adjusting parameters in the "statTimeZone" variable) |

Output parameters

| Parameters | Data type | Description |
|-------------------|-----------|--|
| done | BOOL | TRUE: The function was completed successfully |
| busy | BOOL | TRUE: FB is not finished and new output values can be expected. |
| error | BOOL | FALSE: No error TRUE: An error occurred during the execution of the FB. |
| lastSetTimeZone | STRING | Time zone that was last set by the block |
| status | WORD | 16#0000-16#7FFF: Status of the FB, 16#8000-16#FFFF: Error identification (see following Table). |
| subFunctionStatus | WORD | Status or return value of the called FCs and system blocks. |

Status and error displays

| status | Meaning | Remedy / notes |
|----------|--|---|
| 16#0000 | No error | - |
| 16 #7000 | No job is currently being processed | - |
| 16#7001 | First call after new job (rising edge at "execute") | - |
| 16#7002 | Subsequent call during active processing without further details | - |
| 16#8600 | Error due to an undefined state in the State Machine | - |
| 16#8601 | Error due to an undefined time zone | Check the input value. |
| 16#8201 | Error in "WR_LOC_T" command. | Check the error code in "subFunctionStatus" |
| 16#8202 | Error in "WR_SYS_T" command. | Check the error code in "subFunctionStatus" |
| 16#8203 | Error command "SET_TIMEZONE". | Check the error code in "subFunctionStatus" |

Note

The status of called commands is output in "subFunctionStatus". In this case, the output value in "status" indicates which command caused the error. In this case, refer to the TIA Portal Online Help section for information on the respective commands.

Principle of operation

This block combines the functions of system time, local time, and set time zone.

The following time zones are possible on the "timeZone" input.

| Input "timeZone" | Time zone |
|---------------------|---|
| -1200 | (UTC -12:00) Eniwetok, Kwajalein |
| -1100 | (UTC -11:00) Midway Island |
| -1000 | (UTC -10:00) Hawaii |
| -930 | (UTC -09:30) (French) Polynesia |
| -900 | (UTC -09:00) Alaska |
| -800 | (UTC -08:00) Tijuana, Los Angeles, Seattle, Vancouver |
| -700 | (UTC -07:00) Arizona, Denver, Salt Lake City, Calgary |
| -600 | (UTC -06:00) Chicago, Dallas, Kansas City, Winnipeg |

| Input "timeZone" | Time zone |
|---------------------|---|
| -500 | (UTC -05:00) Eastern Time (USA & Canada) |
| -400 | (UTC -04:00) La Paz, Georgetown |
| -330 | (UTC -03:30) Newfoundland |
| -300 | (UTC -03:00) Brasilia, Buenos Aires |
| -200 | (UTC -02:00) Mid-Atlantic |
| -100 | (UTC -01:00) Azores, Cape Verde Is. |
| 0 | (UTC) Dublin, Edinburgh, Lisbon, London |
| 100 | (UTC +01:00) Berlin, Bern, Brussels, Rome, Stockholm, Vienna |
| 200 | (UTC +02:00) Athens, Istanbul, Minsk, Bucharest |
| 300 | (UTC +03:00) Moscow, St. Petersburg, Baghdad, Kuwait, Riyadh |
| 330 | (UTC +03:30) Iran: Tehran |
| 400 | (UTC +04:00) Abu Dhabi, Muscat |
| 430 | (UTC +04:30) Afghanistan: Kabul |
| 500 | (UTC +05:00) Islamabad, Karachi, Tashkent |
| 530 | (UTC +05:30) India, Sri Lanka |
| 545 | (UTC +05:45) Nepal |
| 600 | (UTC +06:00) Astana, Almaty, Dhaka, Colombo |
| 630 | (UTC +06:30) Coco Island, Myanmar |
| 700 | (UTC +07:00) Bangkok, Hanoi, Jakarta |
| 800 | (UTC +08:00) Beijing, Chongqing, Hong Kong, Urumqi |
| 830 | (UTC +08:30) North Korea old |
| 845 | (UTC +08:45) Western Australia: Eucla |
| 900 | (UTC +09:00) Yakutsk, Osaka, Sapporo, Tokyo, Seoul |
| 930 | (UTC +09:30) Australia: Northern Territory, South Australia |
| 1000 | (UTC +10:00) Brisbane, Canberra, Melbourne, Sydney |
| 1030 | (UTC +10:30) Australia: Lord Howe Island |
| 1100 | (UTC +11:00) Vladivostok, Magadan, Solomon Is., New Caledonia |
| 1200 | (UTC +12:00) Auckland, Wellington |
| 1245 | (UTC +12:45) Chatham Islands |
| 1300 | (UTC +13:00) Tonga, Samoa |
| 1400 | (UTC +14:00) Kiribati |

Note

Daylight saving time/standard time

The parameters (time difference, start summer time, start winter time) must be adapted to the desired time zone in the static variable "statTimeZone".

Adjusting parameters in the “statTimeZone” variable

The static variable “statTimeZone” in the block interface is of the system data type TimeTransformationRule. In this system data type, the parameters for the local time zone and the summer/winter time changeover are stored.

The default values of the static variable “statTimeZone” are set to Central European Summer Time in the block interface:

- Time difference: 60 min
- Start summer time: last Sunday in March, 02:00 a.m.
- Start winter time: last Sunday in October, 03:00 a.m.

The following Figure shows the settings for the summer/winter time changeover of Central European Summer Time.

The parameter “Bias” is determined by the input parameter “timeZone”. The parameter “DaylightBias” depends on the input parameter “daylightSavingTime” and is either “0” or “60”.

For other time zones, the parameters for summer/winter time changeover must be adjusted (marked below).

| Name | Data type | Default value |
|----------------------|------------------------|-------------------|
| Static | | |
| statTimeZone | TimeTransformationRule | |
| Bias | Int | 0 |
| DaylightBias | Int | 60 |
| DaylightStartMonth | USInt | 3 |
| DaylightStartWeek | USInt | 5 |
| DaylightStartWeekday | USInt | 1 |
| DaylightStartHour | USInt | 2 |
| DaylightStartMinute | USInt | 0 |
| StandardStartMonth | USInt | 10 |
| StandardStartWeek | USInt | 5 |
| StandardStartWeekday | USInt | 1 |
| StandardStartHour | USInt | 3 |
| StandardStartMinute | USInt | 0 |
| TimeZoneName | String[80] | 'not even set ... |

Further information on libraries in TIA Portal:

- Topic page libraries
<https://support.industry.siemens.com/cs/ww/en/view/109738702>
- Guideline on Library Handling
<https://support.industry.siemens.com/cs/ww/en/view/109747503>
- Programming Guideline for S7-1200/1500 in chapter “Libraries”
<https://support.industry.siemens.com/cs/ww/en/view/81318674>
- Programming Styleguide
<https://support.industry.siemens.com/cs/ww/en/view/81318674>