# 1.3 Execution Condition

## Types of execution conditions

The following are the five types of execution conditions of the instructions and functions of CPU module.

| Execution condition | | Description |
|---|---|---|
| On | ⎍ | An instruction is executed during on. It is executed only while the precondition of the instruction is on. When the precondition is off, the instruction is not executed. |
| Rising edge | ⎍ | An instruction is executed one time when turned on. It is executed only once on the rising edge (off to on) of the precondition of the instruction and is no longer executed later even when the condition turns on. |
| Off | ⎍ | An instruction is executed during off. It is executed only while the precondition of the instruction is off. When the precondition is on, the instruction is not executed. |
| Falling edge | ⎍ | An instruction is executed one time when turned off. It is executed only once on the falling edge (on to off) of the precondition of the instruction and is no longer executed later even when the condition turns off. |
| Always | — | An instruction is always executed regardless of whether the precondition of the instruction is on or off. When the precondition is off, the instruction performs off processing. |

## Execution condition of each instruction

The execution condition varies depending on the instruction. The following table lists the execution conditions of individual instructions.

| Execution condition | Applicable instruction |
|---|---|
| On | All instructions except for the following |
| Rising edge | • Instruction followed by symbol (P), (GP), and (SP)<br>• PLS |
| Off | — |
| Falling edge | PLF |
| Always | LD, LDI, AND, ANI, OR, ORI, LDP, LDF, ANDP, ANDF, ORP, ORF, LDPI, LDFI, ANDPI, ANDFI, ORPI, ORFI, ANB, ORB, MPS, MRD, MPP, INV, MEP, MEF, OUT, OUT T, OUTH T, OUTHS T, OUT ST, OUTH ST, OUTHS ST, OUT C, OUT LC, MC, MCR, FEND, END, LD□, AND□, OR□, LD□_U, AND□_U, OR□_U, LDD□, ANDD□, ORD□, LDD□_U, ANDD□_U, ORD□_U, JMP, DI, EI, IMASK, SIMASK, IRET, FOR, NEXT, RET, LD$□, AND$□, OR$□, LDE□, ANDE□, ORE□, STMR, LDDT□, ANDDT□, ORDT□, LDTM□, ANDTM□, ORTM□ |