Zero return (DRVZ) operation in detailed diagram description
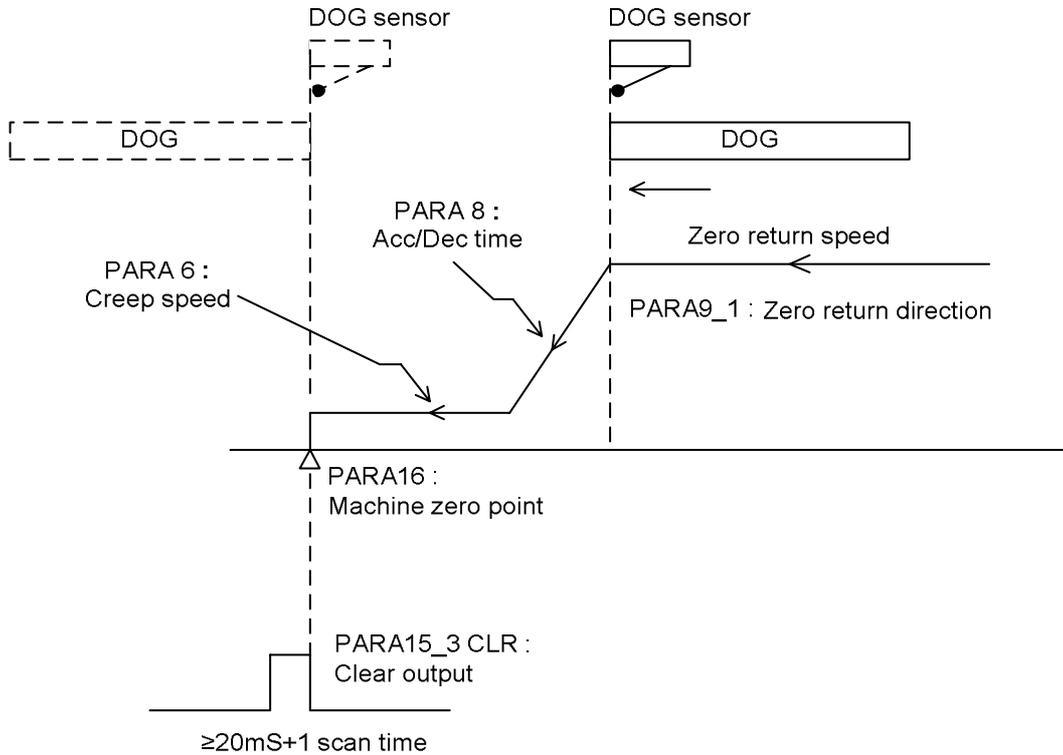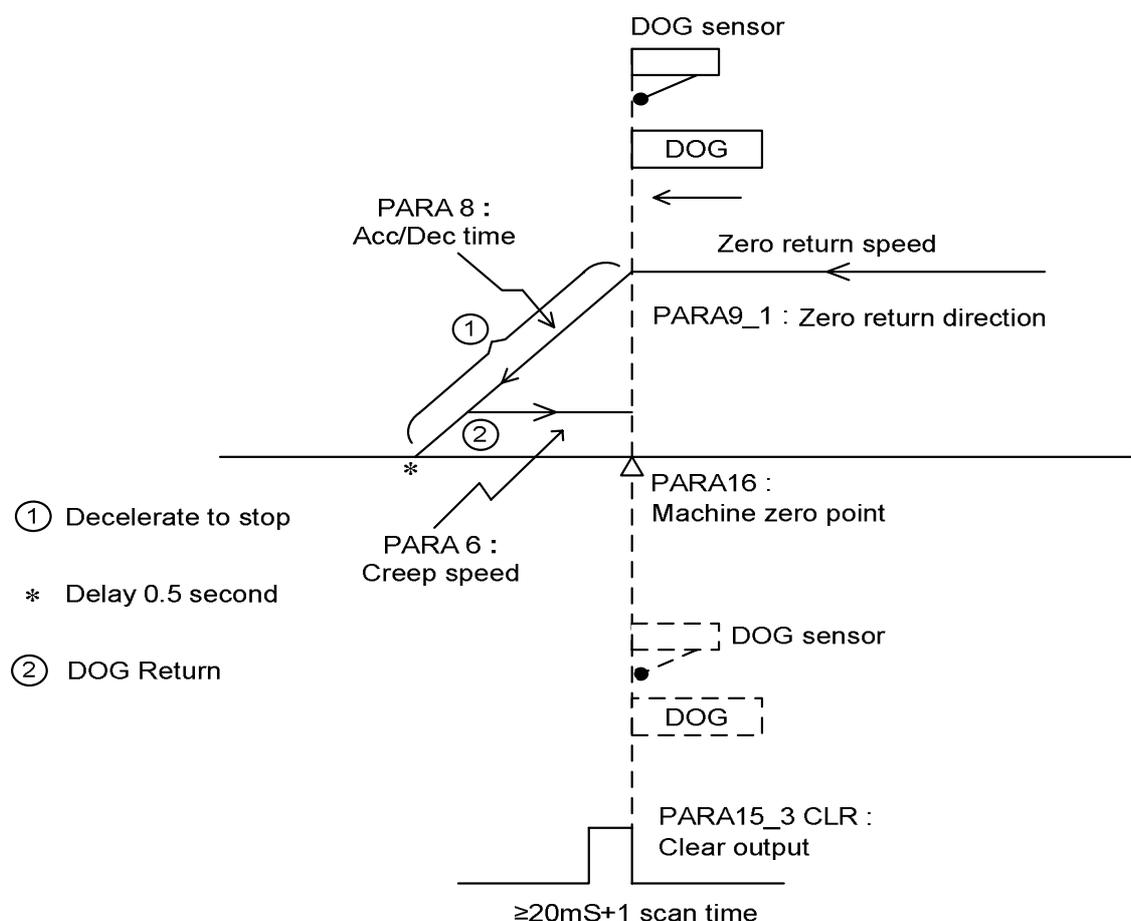
Mode 0

Description:

1. Zero return starts behind the DOG sensor (Parameter 15_0)
   a. Moving forward to zero direction in Zero Return Speed
   b. Changing the moving speed by Creep Speed (Parameter 6) while sensing the dog sensor (Edge detection and interrupt processing)
   c. Keeping forward until leaving the dog sensor (Edge detection and interrupt processing), it is the zero home position
   d. If it doesn't configure the CLR output (Parameter 15_3) for servo driver, the zero return process has been finished at step c
   e. If it has been configured the CLR output (Parameter 15_3) for servo driver, the zero return process will be finished after the CLR output with more than 20 mS duration

2. Zero return starts at or in front of the DOG sensor (Parameter 15_0) + Stroke limit sensor (Parameter 15_1)
   a. Moving forward to zero direction in zero return speed, there will stop moving while sensing the limit sensor
   b. Moving backward in zero return speed and after leaving the dog sensor, it will drive the zero return procedures same as mentioned above 1.

Mode 1

Diagram labels:

DOG sensor

DOG

PARA 8 :
Acc/Dec time

Zero return speed

①

PARA9_1 : Zero return direction

②

*

PARA16 :
Machine zero point

① Decelerate to stop

* Delay 0.5 second

PARA 6 :
Creep speed

② DOG Return

DOG sensor

DOG

PARA15_3 CLR :
Clear output

≥20mS+1 scan time

Description:

1. Zero return starts behind the DOG sensor (Parameter 15_0)
    a. Moving forward to zero direction in Zero Return Speed
    b. Auto slow down to stop movement while sensing the dog sensor (Edge detection and interrupt processing)
    c. Delay 0.5 second, then moving backward until leaving the dog sensor (Edge detection and interrupt processing), it is the zero home position
    d. If it doesn't configure the CLR output (Parameter 15_3) for servo driver, the zero return process has been finished at step c
    e. If it has been configured the CLR output (Parameter 15_3) for servo driver, the zero return process will be finished after the CLR output with more than 20 mS duration

2. Zero return starts at or in front of the DOG sensor (Parameter 15_0) + Stroke limit sensor (Parameter 15_1)
    a. Moving forward to zero direction in zero return speed, there will stop moving while sensing the limit sensor
    b. Moving backward in zero return speed and after leaving the dog sensor, it will drive the zero return procedures same as mentioned above 1.
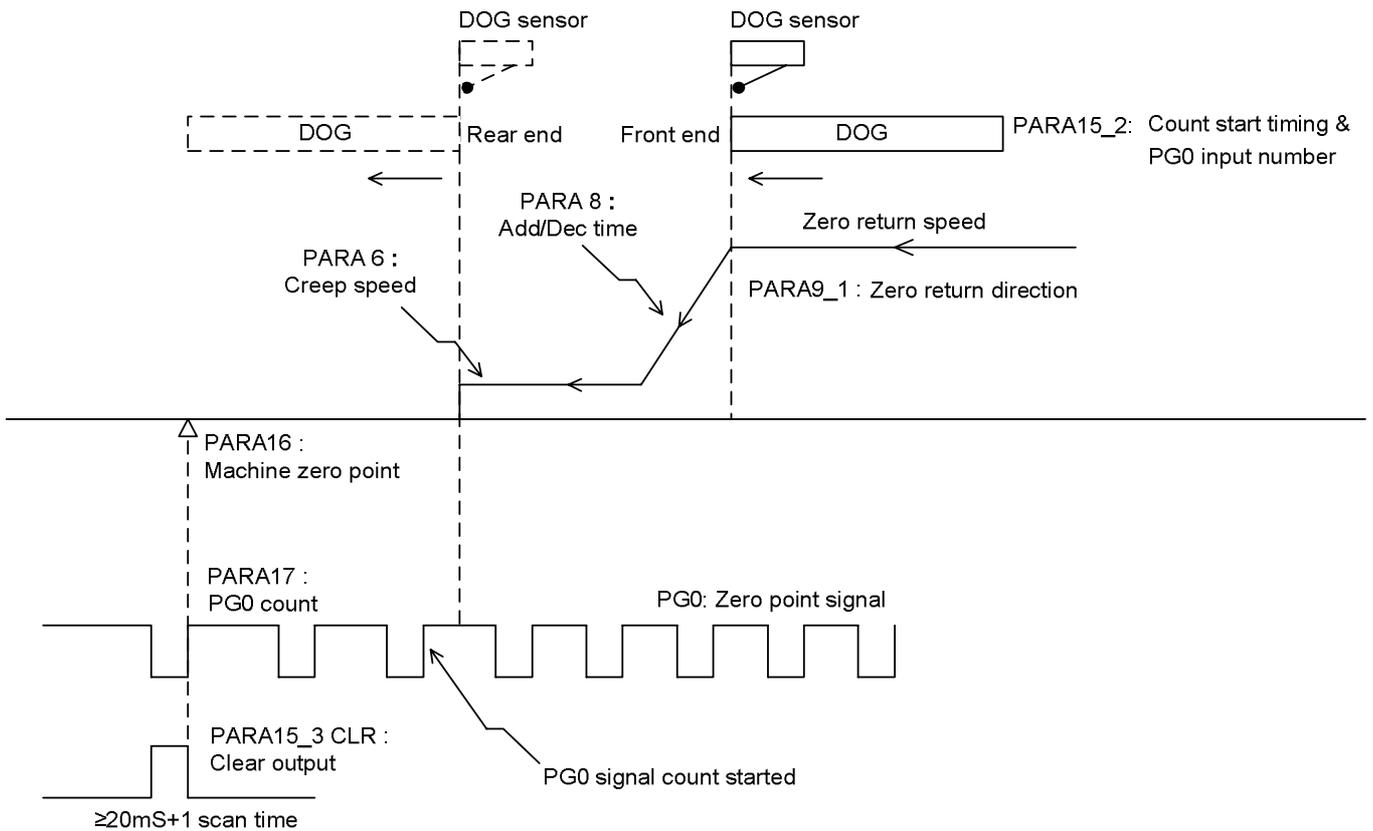
2

Mode 2 (Front edge counting)
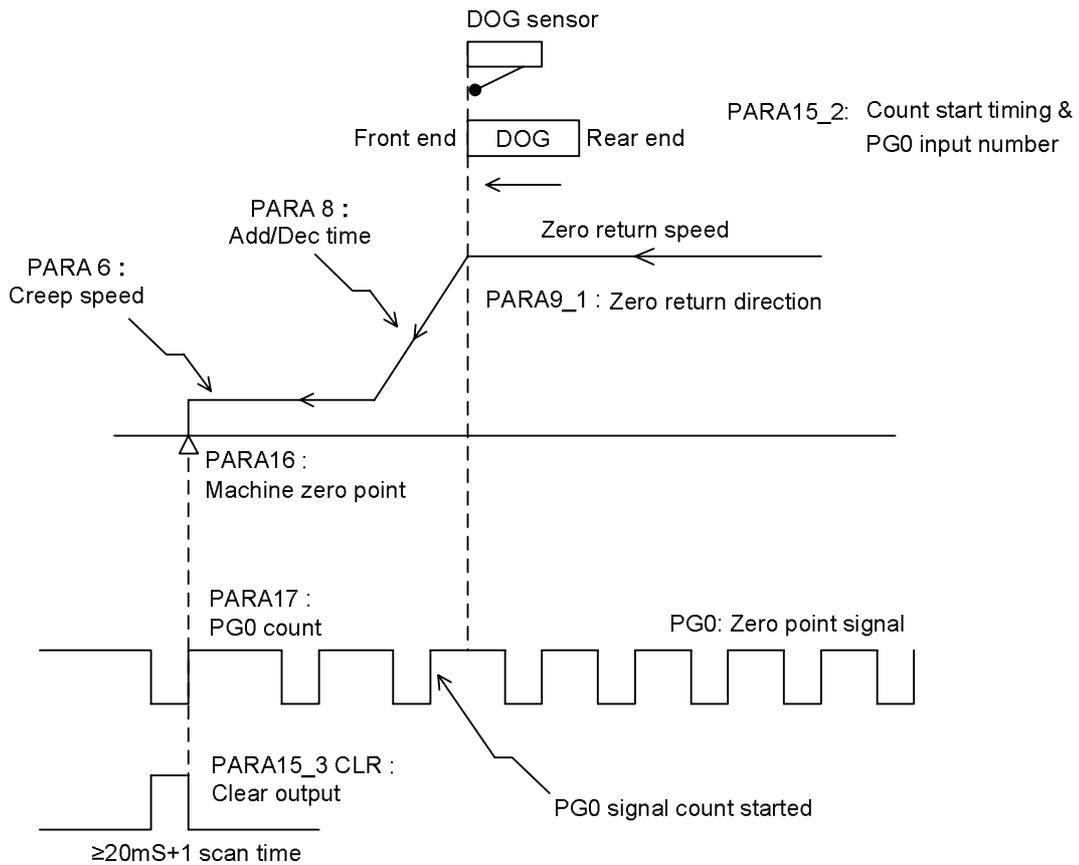
Description:
1. Zero return starts behind the DOG sensor (Parameter 15_0)
   a. Moving forward to zero direction in Zero Return Speed
   b. Changing the moving speed by Creep Speed (Parameter 6) while sensing the dog sensor (Edge detection and interrupt processing), and start counting (Edge detection and interrupt processing) the PG0 signal (Parameter 15_2)
   c. While the counting value of PG0 signal is equal to the preset value (Parameter 17), it is the zero home position
   d. If it doesn't configure the CLR output (Parameter 15_3) for servo driver, the zero return process has been finished at step c
   e. If it has been configured the CLR output (Parameter 15_3) for servo driver, the zero return process will be finished after the CLR output with more than 20 mS duration

2. Zero return starts at or in front of the DOG sensor (Parameter 15_0) + Stroke limit sensor (Parameter 15_1)
   a. Moving forward to zero direction in zero return speed, there will stop moving while sensing the limit sensor
   b. Moving backward in zero return speed and after leaving the dog sensor, it will drive the zero return procedures same as mentioned above 1.

※ Working at this mode, it should be noticed to adjust the correct position of dog sensor to incorporate with PG0 signal to avoid one count PG0 error for zero return processing

Mode 2 (Rear edge counting)

DOG sensor   DOG sensor

DOG | Rear end   Front end | DOG   PARA15_2: Count start timing & PG0 input number

PARA 8 : Add/Dec time

Zero return speed

PARA 6 : Creep speed

PARA9_1 : Zero return direction

PARA16 : Machine zero point

PARA17 : PG0 count

PG0: Zero point signal

PARA15_3 CLR : Clear output

PG0 signal count started

≥20mS+1 scan time

Description:

1. Zero return starts behind the DOG sensor (Parameter 15_0)
   a. Moving forward to zero direction in Zero Return Speed
   b. Changing the moving speed by Creep Speed (Parameter 6) while sensing the dog sensor (Edge detection and interrupt processing); keeping forward and start counting (Edge detection and interrupt processing) the PG0 signal (Parameter 15_2) while leaving the dog sensor
   c. While the counting value of PG0 signal is equal to the preset value (Parameter 17), it is the zero home position
   d. If it doesn't configure the CLR output (Parameter 15_3) for servo driver, the zero return process has been finished at step c
   e. If it has been configured the CLR output (Parameter 15_3) for servo driver, the zero return process will be finished after the CLR output with more than 20 mS duration

2. Zero return starts at or in front of the DOG sensor (Parameter 15_0) + Stroke limit sensor (Parameter 15_1)
   a. Moving forward to zero direction in zero return speed, there will stop moving while sensing the limit sensor
   b. Moving backward in zero return speed and after leaving the dog sensor, it will drive the zero return procedures same as mentioned above 1.

※ Working at this mode, it should be noticed to adjust the correct position of dog sensor to incorporate with PG0 signal to avoid one count PG0 error for zero return processing

Left limit senser

DOG sensor

DOG

Initial position