

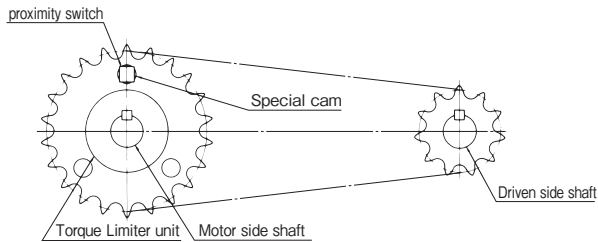
Torque Limiter's operation detection

When overload occurs, the Torque Limiter slips and protects the machine, but if the driving source is not stopped, the Torque Limiter will continue to slip. If it continues to slip, the friction facing will be abnormally worn and become unusually hot, making it necessary to stop the drive source immediately.

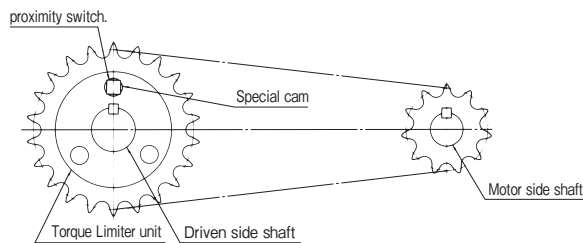
The following are examples that detect Torque Limiter slips and stop the drive by using a proximity switch and digital tachometer.

Installation examples

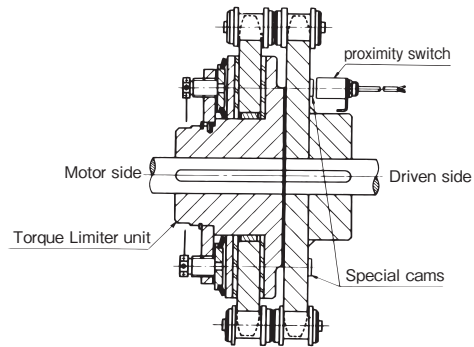
Type1 When the driven side experiences overload and the Torque Limiter's center member stops.



Type2 When the driven side experiences overload, the Torque Limiter unit stops.



Type 3 When the Torque Limiter is used with a coupling type and the center member side stops when overload occurs.



Type 4 When the Torque Limiter is used with a coupling type, and the main unit side stops when overload occurs.

For the installation of Type 4, it is quite difficult to install the special cams, so as much as possible avoid using this type. When using the Torque Limiter with the coupling type, use Type 3.

Slip can be detected within approximately 1 to 10 seconds based on the rotational detection speed if the number of special cams selected is shown in the chart.

Number of special cams and rotational detection speed

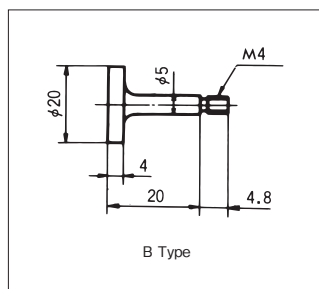
Number of Special cams	Rotational detection speed range r/min	Number of Special cams	Rotational detection speed range r/min
1	6 to 60	6	1.0 to 10
2	3 to 30	7	0.85 to 8.5
3	2 to 20	8	0.75 to 7.5
4	1.5 to 15	9	0.67 to 6.7
5	1.2 to 12	10	0.6 to 6.0

Note: In the case of 0.6 r/min and slower, the range is that of 6 to 60r/min divided by the number of special cams.

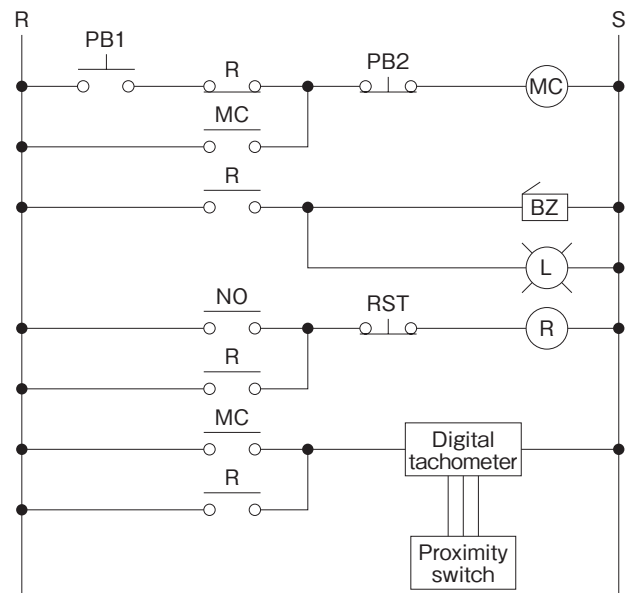
Special cam dimensions and installation

The special cam is fixed by a screw on the driven side. Use a screw lock to lock the screw.

Special cam for reference



Reference Electrical Schematic Diagram



PB1 : Motor start button
 PB2 : Motor stop button
 RST : BZ, L reset button
 MC : Electromagnetic contactor for motor
 R : Auxiliary relay
 NO : Digital tachometer output a contact
 BZ : Buzzer
 L : Lamp

Digital tachometer:
 OMRON H7CX-R11-N

Proximity switch:
 OMRON TL-N5ME2

Note)
 We recommend OMRON digital tachometers and proximity switches for the above. For more information, refer to the OMRON catalog.

Sprockets for the center member

When using the sprocket as a center member, refer to the notes below. In the below chart, the sprocket is used as a center member for the chain drive.

- (1) Minimum number of teeth in which the chain does not interfere with the special cam (same as the reference drawing of the previous page) when using installation types 1 and 2 of the previous page.
- (2) Minimum number of teeth in which the chain does not interfere with the friction facings of the Torque Limiter.
- (3) Bush length
- (4) Sprocket bore diameter (center member bore diameter)

Torque Limiter only and in the case the special cams shown in the previous page are used in type 2.

Torque Limiter Model No.	Sprocket bore diameter (center member bore diameter)	Min. No. of sprocket teeth																	
		RS35		RS40		RS50		RS60		RS80		RS100		RS120		RS140		RS160	
		Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length
TL200	30 $^{+0.03}_0$	△ 20	3.8	16	6														
TL250	41 $^{+0.05}_0$			20	6.5	17	6.5												
TL350	49 $^{+0.05}_0$			26	6.5	21	6.5	18	9.5	15	9.5								
TL500	74 $^{+0.05}_0$					△ 29 (30)	6.5	25	9.5	19	9.5								
TL700	105 $^{+0.05}_0$							△ 33 (35)	9.5	26	12.5	21	12.5	18	12.5				
TL10	135 $^{+0.07}_0$											△ 29 (30)	12.5	24	15.5	△ 22	19.5		
TL14	183 $^{+0.07}_0$											△ 39 (40)	15.5	△ 33 (35)	15.5	△ 29	19.5	△ 26	23.5
TL20	226 $^{+0.07}_0$											△ 54	15.5	△ 46 (60)	15.5	△ 40	19.5	△ 35	23.5

Note: Those marked with "△" are not standard A type sprockets. When using a standard stock sprocket, use the number of teeth in ().

In the case the special cams shown in the previous page are used in type 1.

Torque Limiter Model No.	Sprocket bore diameter (center member bore diameter)	Min. No. of sprocket teeth																	
		RS35		RS40		RS50		RS60		RS80		RS100		RS120		RS140		RS160	
		Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length	Min.No. of teeth	Bush length
TL200	30 $^{+0.03}_0$	△ 25	3.8	19	6.0														
TL250	41 $^{+0.05}_0$			24	6.5	20	6.5												
TL350	49 $^{+0.05}_0$			30	6.5	24	6.5	21	9.5	17	9.5								
TL500	74 $^{+0.05}_0$					32	6.5	△ 28 (30)	9.5	21	9.5								
TL700	105 $^{+0.05}_0$							36	9.5	△ 28 (30)	9.5	△ 23 (24)	12.5	20	12.5				
TL10	135 $^{+0.07}_0$											△ 31 (32)	12.5	26	15.5	△ 23	19.5		
TL14	183 $^{+0.07}_0$											△ 41 (45)	15.5	35	15.5	△ 30	19.5	△ 27	23.5
TL20	226 $^{+0.07}_0$											△ 56 (60)	15.5	△ 47 (60)	15.5	△ 41	19.5	△ 36	23.5

Note: Those marked with "△" are not standard A type sprockets. When using a standard stock sprocket, use the number of teeth in ().