

The following table (compliments of Schneider Electric) gives recommended circuit breaker ratings for use in circuits with discharge lamps. Ratings are based on the time current characteristics of type C and D circuit breakers.

During start up of discharge lamps, surge current may be in the order of:
 - 25 x circuit start current for the first 3 milliseconds.
 - 7 x circuit start current for the following 2 seconds.
 Circuits with long cable runs may reduce the actual inrush current due to the voltage drop to

a level which is lower than the maximum of 25 x start up current. This could effect the choice of circuit breaker rating used in circuits where the number of lamps exceed 3, a reduced surge current factor is therefore applied. Consideration must be given to the number of lamp fittings used in each circuit as this may entail the use of unusually large cable.

Circuits with large numbers of lamp fittings may cause some inconvenience in the event of a fault, as due regard for safety in the working environment must be considered in the event of the lighting being extinguished.

High Pressure Sodium (HPS), Metal Halide - Type D Circuit Breaker Rating

	Lamp Wattage (W)					MCB	Contactor
	70w	150w	250w	400w	1000w	Rating (A)	Rating (A)
Max number of luminaires per phase	6	6	2	2	1	16	25
	9	9	4	3	2	25	40
	18	18	8	6	4	40	40
	25	25	12	9	6	63	63
Circuit Current (A)							
Start	0.55	1.00	1.50	3.00	6.00		
Run	0.40	0.80	1.30	2.15	5.40		

Fluorescent lamp with conventional ballast - Type C

	Lamp Wattage (W)					MCB	Contactor
	2x18w	2x36w	4x36w	1x58w	2x58w	Rating (A)	Rating (A)
Max number of luminaires per phase	22	12	6	13	7	10	16
	30	15	7	16	11	16	25
	46	23	11	20	16	20	25
	61	30	14	35	19	25	40
	78	39	19	42	25	32	40
	97	49	24	56	31	40	63
	122	61	30	65	39	50	63
	153	77	38	84	49	63	100
	180	100	50	110	63	100	100

Fluorescent lamp with Electronic Ballast, 230v Halogen or Tungsten Filament - Type C

	Lamp Wattage (W)					MCB	Contactor
	2x18w	2x36w	4x36w	1x58w	2x58w	Rating (A)	Rating (A)
Max number of luminaires per phase	22	12	6	13	7	10	16
	30	19	7	16	10	16	16
	46	23	11	33	16	20	25
	55	30	14	35	19	25	25
	78	39	19	49	24	32	40
	97	49	24	62	31	40	40
	122	60	30	77	38	50	63
	150	77	38	90	46	63	63
	225	120	60	150	75	100	100