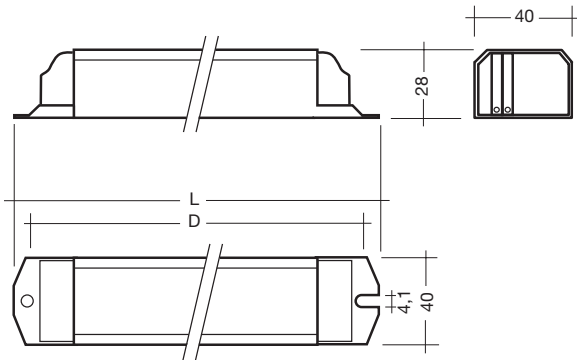




PC TCL PRO 18–55 W 220–240 V 50/60/0 Hz, single lamp and twin lamp



- defined lamp warm start < 1.5 s
- constant light output independent of fluctuations in mains voltage
- AC voltage range 198–254 V
- DC voltage range 176–280 V, for ignition input voltage \geq 198 V
- power factor > 0.95
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage 267–306 V AC
- undervoltage protection (shut down) below 150 V AC / 176 V DC
- operating frequency \geq 40 kHz
- suitable for automatic and manual wiring with insulation displacement connector (IDC)

- wide operating temperature range from -25°C to +50°C resp. +60°C
- suitable for use in emergency lighting installations in accordance with VDE 0108
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with ∇ or ∇ and $\nabla\nabla$ in acc. with EN 60598/VDE 0710 and VDE 0711
- suitable for luminaires with protection class SK I and SK II
- Ingress protection IP 20
- thermal protection according to EN 61347-2-3 C5e ∇

Packaging L=234:
10 pieces/carton
63 cartons/pallet
630 pieces/pallet

Packaging L=360:
10 pieces/carton
42 cartons/pallet
420 pieces/pallet

Approvals:
EN 55015
EN 55022
EN 61347-2-4
EN 60925
EN 61347-2-3
EN 60929
EN 61000-3-2
EN 61547
in accordance with VDE 0108
IEC 68-2-64 Fh
IEC 68-2-29 Eb
IEC 68-2-30

Lamp watt- age W	Lamp type	Ballast type	article number	length mm	fixing- centres D mm	weight kg	lamp- power W	circuit power W ①	Celma- class EEI	current at 50Hz		λ at 50Hz		tc point °C	temperature range ta °C
										220V A	240V A	220V	240V		
1x18	TC-L	PC 1/18/24 TCL PRO	22176068	234	220	0,28	16	18,5	A3	0,09	0,08	0,96	0,94	75	-25 → +60
2x18	TC-L	PC 2/18/24 TCL PRO	22176069	234	220	0,28	32	36,0	A2	0,17	0,16	0,98	0,96	75	-25 → +60
1X24	TC-L	PC 1/18/24 TCL PRO	22176068	234	220	0,28	22	25,0	A3	0,12	0,11	0,98	0,96	75	-25 → +60
2x24	TC-L	PC 2/18/24 TCL PRO	22176069	234	220	0,28	44	49,0	A2	0,22	0,21	0,99	0,97	75	-25 → +60
1X36	TC-L	PC 1/36 TCL PRO	22088398	234	220	0,28	32	36,0	A2	0,17	0,15	0,99	0,97	70	-25 → +50
2x36	TC-L	PC 2/36 TCL PRO	22088401	234	220	0,28	64	72,5	A3	0,34	0,31	0,98	0,96	75	-25 → +50
1X38	T8	PC 1/36 TCL PRO	22088398	234	220	0,28	32	36,0	A2	0,17	0,15	0,99	0,97	70	-25 → +50
2x38	T8	PC 2/36 TCL PRO	22088401	234	220	0,28	64	72,5	A3	0,34	0,31	0,98	0,96	75	-25 → +50
1x40	TC-L	PC 1/40 TCL PRO	22088410	234	220	0,28	40	46,0	A3	0,22	0,20	0,98	0,96	70	-25 → +50
2x40	TC-L	PC 2/40 TCL PRO	22088426	234	220	0,28	80	88,0	A2	0,41	0,37	0,99	0,97	80	-25 → +50
1x55	TC-L	PC 1/55 TCL PRO	22088432	234	220	0,28	55	61,0	A2	0,29	0,26	0,97	0,95	80	-25 → +50
2x55	TC-L	PC 2/55 TCL PRO	22088448	360	350	0,36	110	120,0	A2	0,56	0,51	0,99	0,97	75	-25 → +50

① measured according to EN 50294

② Types will be replaced by the new xTec generation until 3rd quarter of 2008.

Technical data

The PC TCL PRO complies with:

EN 55015
EN 55022
EN 61000-3-2
EN 61347-2-4
EN 60925
EN 61547
EN 61347-2-3
EN 60929
IEC 68-2-64 Fh
IEC 68-2-29 Eb
IEC 68-2-30

CE

ENEC marked

CELMA energy classification EEI = A2 resp.

EEI = A3

Lamp starting characteristics

Warm start

Starting time < 1.5 s with AC and DC operation

AC operation

Mains voltage:

220–240 V 50/60 Hz

198–254 V 50/60 Hz

DC operation

220–240 V 0 Hz

198–280 V 0 Hz certain lamp start

176–280 V 0 Hz operating range

Light output level in DC operation: 100 %

Emergency lighting

Use in emergency lighting installations according to VDE 0108 or for emergency luminaires according to EN 61347-2-3 appendix J.

Instant start after mains interruption < 0.5 s



Intelligent Voltage Guard

Overvoltage indication (lamp flashes) starting at certain voltage level. Undervoltage protection (ballast shut down) at certain voltage level. Automatic restart of ballast within AC/DC operation voltage.

Mains currents in DC operation

Ballast type	wattage W	mains current at $U_n = 220$ VDC	mains current at $U_n = 240$ VDC
PC 1/18/24 TCL PRO 220-240V 50/60/0Hz	18	80 mA	75 mA
PC 1/18/24 TCL PRO 220-240V 50/60/0Hz	24	114 mA	105 mA
PC 1/36 TCL PRO 220-240V 50/60/0Hz	36	166 mA	152 mA
PC 1/40 TCL PRO 220-240V 50/60/0Hz	40	215 mA	198 mA
PC 1/55 TCL PRO 220-240V 50/60/0Hz	55	290 mA	265 mA
PC 2/18/24 TCL PRO 220-240V 50/60/0Hz	2x18	160 mA	147 mA
PC 2/18/24 TCL PRO 220-240V 50/60/0Hz	2x24	231 mA	214 mA
PC 2/36 TCL PRO 220-240V 50/60/0Hz	2x36	336 mA	308 mA
PC 2/40 TCL PRO 220-240V 50/60/0Hz	2x40	423 mA	388 mA
PC 2/55 TCL PRO 220-240V 50/60/0Hz	2x55	567 mA	520 mA

Harmonic distortion in the mains supply

Ballast type	wattage W	THD at 230 V/50 Hz
PC 1/18/24 TCL PRO 220-240V 50/60/0Hz	18	< 10 %
PC 1/18/24 TCL PRO 220-240V 50/60/0Hz	24	< 10 %
PC 1/36 TCL PRO 220-240V 50/60/0Hz	36	< 10 %
PC 1/40 TCL PRO 220-240V 50/60/0Hz	40	< 10 %
PC 1/55 TCL PRO 220-240V 50/60/0Hz	55	< 10 %
PC 2/18/24 TCL PRO 220-240V 50/60/0Hz	2x18	< 10 %
PC 2/18/24 TCL PRO 220-240V 50/60/0Hz	2x24	< 10 %
PC 2/36 TCL PRO 220-240V 50/60/0Hz	2x36	< 10 %
PC 2/40 TCL PRO 220-240V 50/60/0Hz	2x40	< 10 %
PC 2/55 TCL PRO 220-240V 50/60/0Hz	2x55	< 10 %

Output voltage

Ballast type	wattage W	U_{out}
PC 1/18/24 TCL PRO 220-240V 50/60/0Hz	18	250 V
PC 1/18/24 TCL PRO 220-240V 50/60/0Hz	24	250 V
PC 1/36 TCL PRO 220-240V 50/60/0Hz	36	250 V
PC 1/40 TCL PRO 220-240V 50/60/0Hz	40	250 V
PC 1/55 TCL PRO 220-240V 50/60/0Hz	55	250 V
PC 2/18/24 TCL PRO 220-240V 50/60/0Hz	2x18	250 V
PC 2/18/24 TCL PRO 220-240V 50/60/0Hz	2x24	250 V
PC 2/36 TCL PRO 220-240V 50/60/0Hz	2x36	250 V
PC 2/40 TCL PRO 220-240V 50/60/0Hz	2x40	300 V
PC 2/55 TCL PRO 220-240V 50/60/0Hz	2x55	250 V

Ballast lumen factor

EN 60929 8.1

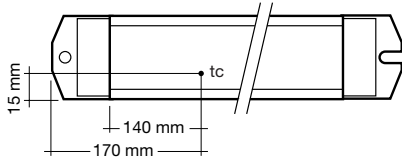
Ballast type	wattage W	AC/DC-BLF at $U = 198-254$ V, 25 °C
PC 1/18/24 TCL PRO 220-240V 50/60/0Hz	18	0.98
PC 1/18/24 TCL PRO 220-240V 50/60/0Hz	24	≥ 1
PC 1/36 TCL PRO 220-240V 50/60/0Hz	36	≥ 1
PC 1/40 TCL PRO 220-240V 50/60/0Hz	40	≥ 1
PC 1/55 TCL PRO 220-240V 50/60/0Hz	55	≥ 1
PC 2/18/24 TCL PRO 220-240V 50/60/0Hz	2x18	0.99
PC 2/18/24 TCL PRO 220-240V 50/60/0Hz	2x24	≥ 1
PC 2/36 TCL PRO 220-240V 50/60/0Hz	2x36	≥ 1
PC 2/40 TCL PRO 220-240V 50/60/0Hz	2x40	≥ 1
PC 2/55 TCL PRO 220-240V 50/60/0Hz	2x55	≥ 1

ASIC light management

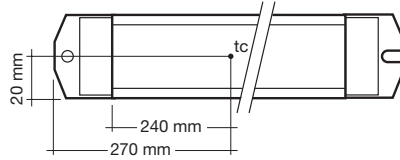
ASIC (Application specific integrated circuit) is the very latest in lighting management design technology. The lamp friendly warm start is delivering maximum lamp life and enables high switching frequency applications.

Ambient Temperature

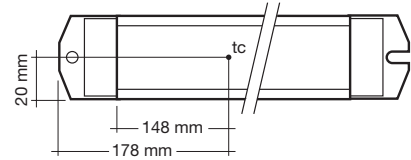
-25 °C to +50 °C resp. +60 °C



PC 1/18/24 TCL PRO
PC 1/55 TCL PRO
PC 2/18/24 TCL PRO
PC 2/36 TCL PRO



PC 2/55 TCL PRO



PC 1/36 TCL PRO
PC 1/40 TCL PRO
PC 2/40 TCL PRO

tc point is related to the ballast life duration.

PC TCL PRO is designed for an average service life of 50,000 hours under reference conditions and with a failure probability of less than 10 %. This corresponds to an average failure rate of 0.2 % for every 1,000 hours of operation.

Maximum loading of automatic circuit breakers

Automatic circuit

breaker type	C10	C13	C16	C20	B10	B13	B16	B20
Installation Ø	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²
PC 1/18/24 TCL PRO	30	40	48	60	15	20	24	30
PC 1/36 TCL PRO	38	54	76	90	19	27	38	45
PC 1/40 TCL PRO	38	54	78	90	19	27	39	45
PC 1/55 TCL PRO	28	38	50	60	14	19	25	30
PC 2/18/24 TCL PRO	24	32	38	46	12	16	19	23
PC 2/36 TCL PRO	24	34	44	50	12	17	22	25
PC 2/40 TCL PRO	14	24	28	34	7	12	14	17
PC 2/55 TCL PRO	8	14	18	20	4	7	9	10

Wiring advice

The lead length is dependant on the capacitance of the cable.

For safety reasons, the PC TCL PRO must only be earthed in the case of a safety class 1 luminaire. Earthing is not required for the device to operate. Connection to earth reduces radio interference.

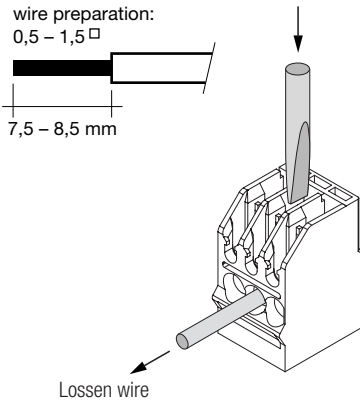
With standard solid wire 0.5/0.75 mm² the capacitance of the lead is 30–80 pF/m. This value is influenced by the way the wiring is made. Keep lamp wires short. Lamp connection with twin ballast should be made with symmetrical wiring. Hot leads (9, 10) and cold leads (11, 12, 13, 14) should be separated as much as possible.

Ballast type	Ballast		Maximum capacitance allowed	
	Cold	Hot	Cold	Hot
PC 1/xx TCL PRO	11, 12	9, 10	200 pF	100 pF
PC 2/xx TCL PRO	11, 12, 13, 14	9, 10	200 pF	100 pF

Installation instructions

Wiring type and cross section

Suitable for solid cables from 0.5 to 1.5 mm².



RFI

TridonicAtco ballasts are RFI protected in accordance with EN 55015 and EN 55022. To operate the luminaire correctly and to minimise RFI we recommend the following instructions:

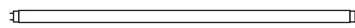
- Connection to the lamps of the "hot leads" must be kept as short as possible
- Mains leads should be kept apart from lamp leads (ideally 5–10 cm distance)
- Do not run mains leads adjacent to the electronic ballast
- Twist the lamp leads

- Keep the distance of lamp leads from the metal work as large as possible
- Ballast must be earthed
- Mains wiring to be twisted when through wiring
- Keep the mains leads inside the luminaire as short as possible

Defective lamp

If a lamp is defective, the ballast switches off and goes into standby. There is an automatic restart once the lamp has been changed.

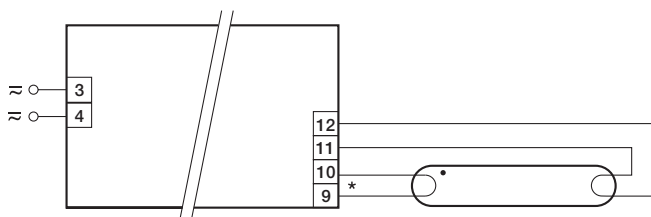
T8 lamp information



wattage	length
38 W	1050 mm

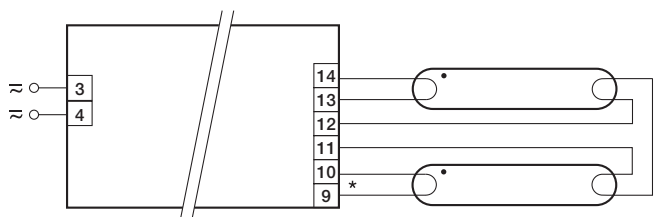
TC-L lamp information

	wattage	length
	18 W	209 mm
	24 W	309 mm
	36 W	415 mm
	40 W	535 mm
	55 W	535 mm



* leads 9, 10 max. 1.0 m (< 100 pF)
leads 11, 12 max. 2.0 m (< 200 pF)
SK I - luminaires: earth of ballast housing required (according to IEC 598)
SK II - luminaires: no earth required

PC 1x18-55 W TCL PRO



* leads 9, 10 max. 1.0 m (< 100 pF)
leads 11, 12, 13, 14 max. 2.0 m (< 200 pF)
SK I - luminaires: earth of ballast housing required (according to IEC 598)
SK II - luminaires: no earth required

PC 2x18-55 W TCL PRO