

Synchronous Clock Movements

T100, T200, T300 and T400 series

CI/SfB

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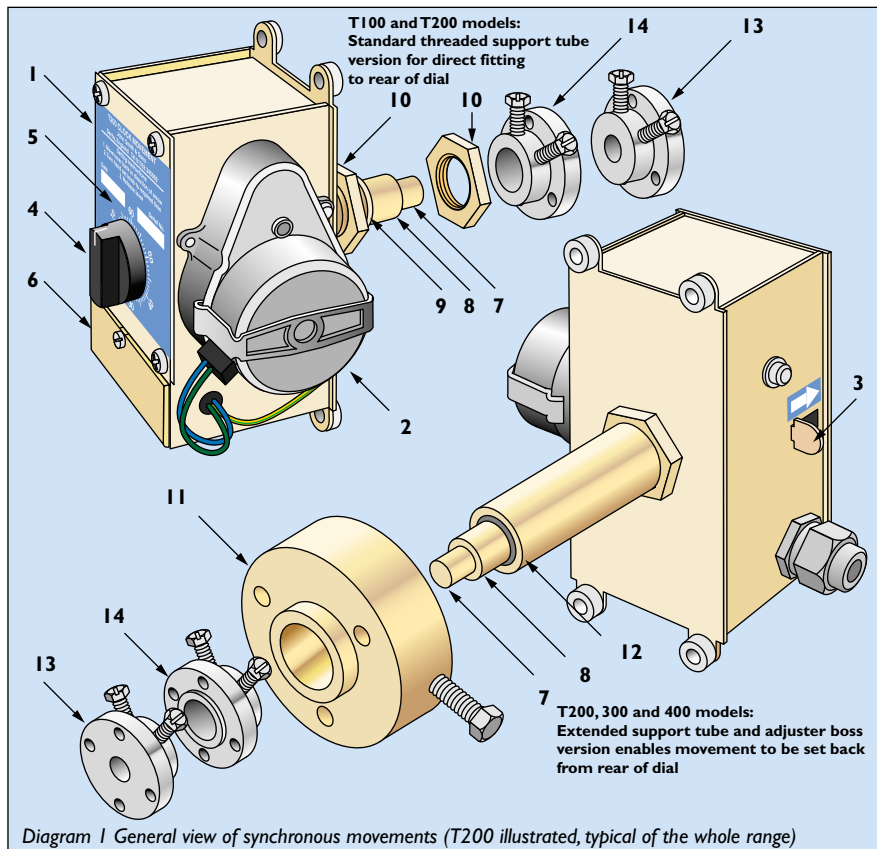


Diagram 1 General view of synchronous movements (T200 illustrated, typical of the whole range)

Key to parts: Diagram 1 shows T200 units, typical of the whole range.

- 1 Main casing, houses gears for transmission to minute shaft 13 and hour shaft 14.
- 2 Synchronous motor and reduction gear unit. Timekeeping governed by power supply frequency.
- 3 Hands adjustment release lever.
- 4 Hands adjustment knob
- 5 Hands adjustment markers
- 3, 4 and 5 enable manual alteration of the time shown by the clock hands.
- 6 Cover for electrical connections.
- 7 Inner shaft (minute hand).
- 8 Outer shaft (hour hand).
- 9 Threaded support tube.
- 10 Centre fixing locknuts.
- 9 & 10 is standard on T100 and option on T200, for installation directly onto rear of dial. See installation method B on the Clock Dials brochure. Larger movements require mounting on separate brackets.
- 11 Adjuster boss.
- 12 Support tube extension.
- 11 & 12 are for installation on brackets with movement set back from rear of dial with extended support tube, (not T100 models). See installation methods A, C and D on the Clock Dials Brochure.
- 13 Minute hand boss
- 14 Hour hand boss
- 13 and 14 are supplied assembled to the clock hands.

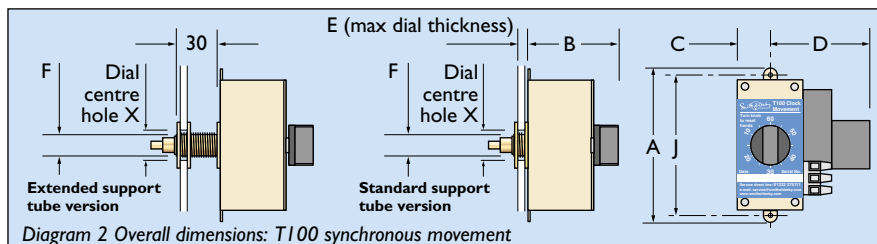


Diagram 2 Overall dimensions: T100 synchronous movement

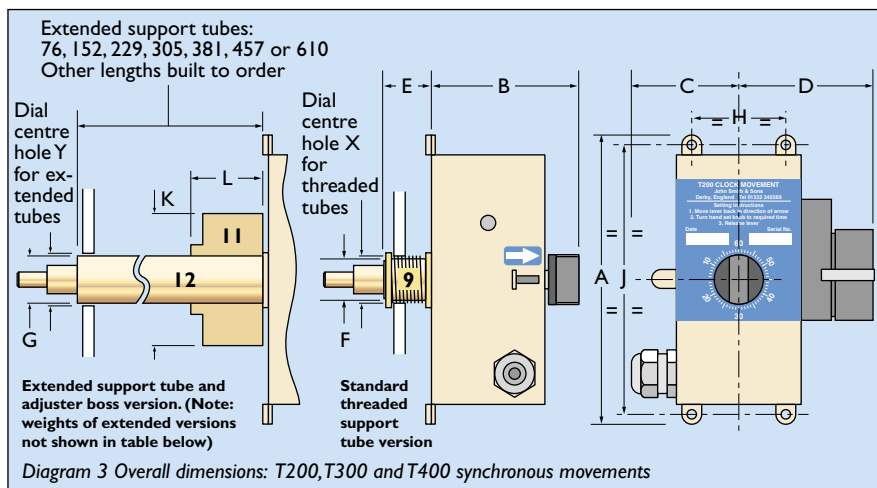


Diagram 3 Overall dimensions: T200, T300 and T400 synchronous movements

Materials: Corrosion resistant steel plated casings, pre-lubricated long life bearings, precision machined brass gear wheels and bronze bearings.

Control: Direct from power supply, or in conjunction with Smith of Derby power failure back-up system (Auto Restart or Inverter Charger).

Options: Sweep seconds hand on T200 (TSS) and T300(S) models. Provision for neon illuminated hands on T300 and T400. All options affect overall dimensions, details supplied on request.

***Maximum dial diameters:** Interior refers to dial installed inside a building or behind a clear protective cover. Exterior refers to a dial installed outside with no protective cover.

Approximate overall dimensions (mm)		Hole centres		Adj. boss		Dial hole	Weight	*Max. dial dia.								
Type	A	B	C	D	E	F	G	H	J	K	L	X	Y	(kg)	Interior	Exterior
T100	101	60	22.5	55	8	14	-	-	92	-	-	14	14	0.5	900	750
T200	152.5	81	73	72	20	20	25.4	50	142.5	70	34	22	29	1.8	1,830	1,370
T300	240	132	80	120	-	-	38	87	216	80	36	-	41	6.0	2,600	2,300
T400	390	195	120	240	-	-	57	140	350	-	-	-	60	21.5	3,500	3,050

SMITH OF DERBY GROUP

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Power Failure Back-up Systems

For Smith of Derby T series Synchronous Clock Movements

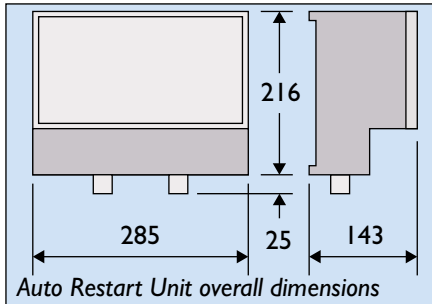
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Principal features

- ◆ Automatic timekeeping and Summer/Winter time adjustments
- ◆ Control for up to four synchronous clock movements
- ◆ Automatic correction after power failure
- ◆ Pre-programmed alteration at Summer/Winter changeover
- ◆ Quartz controlled timekeeping
- ◆ Battery automatically recharged
- ◆ Over ten years battery reserve for programme memory
- ◆ Individual correction switches for clock dials
- ◆ Patented



Auto Restart Unit general specification:

Case in light grey high impact polystyrene, protected to IP54, with clear acrylic cover.
Weight: 1.42kg /3.2lb.

Memory back-up battery: 0.1Ah for more than 10 years.

Supply: 230V or 110V 5A single phase (specify).
CE compliant.

Standard back-up: Auto Restart Unit functions by “memorising” the time at which a power failure starts. After a power failure of over 10 seconds, the unit cuts power to the synchronous movements for 12 hours and restarts them automatically at the correct time. If power is still unavailable the unit will repeat the procedure for each subsequent 12 hour period until power is resumed. For all power failures of less than 10 seconds, the unit will not cut power to the movements, but store the length of time in memory and compensate at the next long power failure or Summer/Winter changeover.

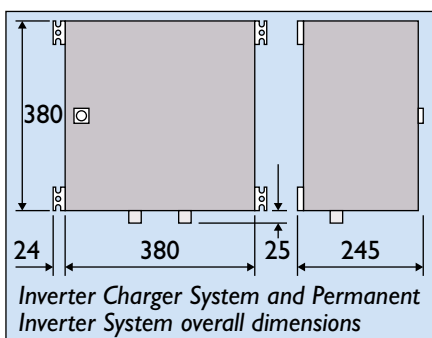
Advanced back-up: Inverter Charger System: Battery powered to keep clock movements powered during a power failure. The battery is automatically recharged on resumption of power supply. Should the failure become prolonged, the unit will automatically switch to operate as the Auto Restart Unit, and cut power to the movements. This protects the battery and resumes power to the movements at the correct time after power is restored.

Permanent Inverter Charger System: identical to the Inverter Charger System, except that power to the movements is taken from the battery at all times. This overcomes any timekeeping discrepancy caused by variations in the supply frequency, such as the use of a standby generator. The external power supply is used only for charging the battery.

Summer/Winter time adjustments: all units are pre-programmed to current European times to stop the clock movements automatically for 1 hour at autumn and 11 hours at spring Summer/Winter (daylight saving) alterations. No attention to the unit or clock movements is necessary. Other countries local time changes are available, details on request.

Indicator lights: There are no user controls as all operations are automatic. The red “power indicator” shows that power is connected and the green “clock indicator” shows that power is being supplied to the movements. When the system is operating normally both indicators are on. If the green indicator is off then the clock movements will be stationary due to a recent power failure or automatic Summer/Winter changeover. Indicator lights are situated on the front panel of the Auto Restart Unit and inside the cabinet of the Inverter Charger.

Installation: wall mounted inside a building, positioned for easy access away from direct heat, sunlight and damp. Temperatures limits 0°C to 55°C. Wiring must conform to current electrical regulations. Full instructions and wiring diagrams supplied. Failure to install and connect correctly will invalidate the guarantee.



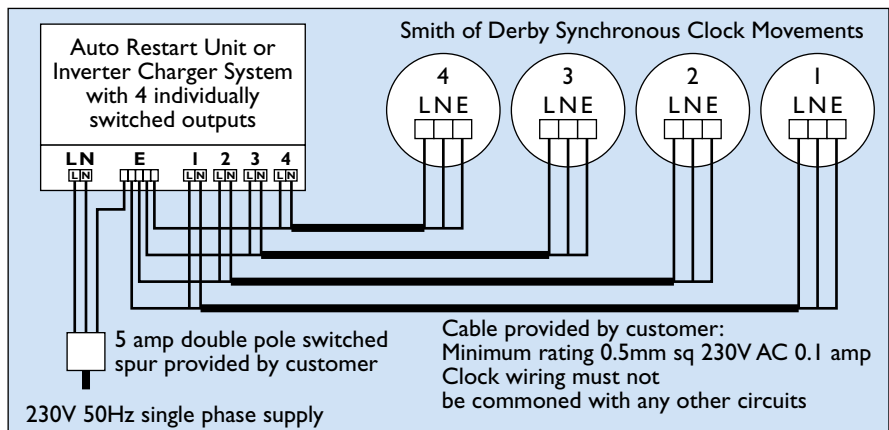
Inverter Charger System and Permanent Inverter System general specification:

Case constructed in sheet steel, grey epoxy powder finish, protected to IP66.

Weight: 19.05kg/42lb.
Battery Power: 17Ah.

Memory back-up battery: 0.1Ah for more than 10 years.

Supply: 230V or 110V 5A single phase. (specify)



Basic wiring scheme: for information only - details may vary according to site requirements

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