

## What is a CT Chamber?

When an electrical installation, whether temporary or permanent, is provided with an electrical supply, there is always a need to meter the supply, to enable the supplier to bill their client for the electricity consumed. When the supply is 400V TP&N and rated at 200A and above, the electricity meter generally works in combination with Current Transformers (CTs). The CTs are usually provided by the electricity supplier or Distribution Network Operator (DNO) but a sealable, tamper proof, all-insulated chamber is also required to house the CTs. This housing is referred to as a CT chamber. Some electricity suppliers / DNOs provide the CT chamber but others require the installer to provide the chamber.

In recent years, there has been an increase in demand for CT chambers from Building Network Operators (BNO). This is the organisation (often the owner or landlord of the premises) who operates the electricity distribution network between the main DNO intake and individual tenants' installations within a multiple occupancy building. BNOs do not tend to supply their own CTs and we have expanded our range to include CTs rated from 200A to 1600A (see below).

### Standard CT Chambers

We offer a range of standard CT chambers, the origins of which date back to the London Electricity Board (LEB). Although the LEB no longer exists, the proven performance of our all-insulated CT chamber range is accepted by a number of DNOs and BNOs for their installations. Please also see data sheet ref. DDS004.

Part Number	Type Number	Rating	Entry / Exit
S030096	CTC/400/LR	2/400A	Bottom / Top
S030097	CTC/800/LR	800A	Bottom / Top
S030229	CTC/1600/LR	1600A	Bottom / Top

Before ordering a CT chamber, it is imperative to confirm that the CTs and the chamber are compatible. GA drawings of the CT chambers can be downloaded from our website. CTs to suit the above CT chambers are detailed below.

Measuring Current Transformers to BS EN 61869-1 and 2 for standard CT Chambers (3 no. CTs required per CT Chamber)			
S031367	CT200:5 (for S030096)	200:5 ratio, class 0.5, 3VA	
S031368	CT400:5 (for S030096)	400:5 ratio, class 0.5, 8VA	
S031369	CT600:5 (for S030097)	600:5 ratio, class 0.5, 4VA	
S031370	CT800:5 (for S030097)	800:5 ratio, class 0.5, 6VA	
S031371	CT1200:5 (for S030229)	1200:5 ratio, class 0.5, 25VA	
S031372	CT1600:5 (for S030229)	1600:5 ratio, class 0.5, 40VA	

### CT Chambers for Scottish & Southern Electricity

Some electricity suppliers, such as Scottish and Southern (SSE), have specific requirements for CT Chambers and we have standard part numbers for a range of SSE high current CT chambers (other variants can also be supplied).

Part Number	Type Number	Rating	Entry / Exit
S031338	CTC/800/SR/037	800A	Bottom / Top
S031339	CTC/1250/SR/037	1250A	Bottom / Top
S031398	CTC/1600/SR/037	1600A	Bottom / Top
S031349	CTC/2000/SR/084	2000A	Bottom / Top



CT Chamber, 400A, Part No. S030096



SSE CT Chamber, 800A, Part No. S031338

Please see over the page for combined CT Chambers and RCDs for Temporary Builders Supplies.

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## Assemblies for Temporary Builders Supplies (TT supply)

Temporary Builders Supplies are commonly provided for construction sites but most electricity Suppliers will not guarantee the integrity of the earth connection. Sites are therefore required to provide their own earthing system by means of an earth rod, mat or similar arrangement (a TT supply). To prevent the risk of a voltage appearing between the incoming earth and the site earth under fault conditions, it is necessary to keep the two earthing and protection systems separate. In addition, because the earth fault loop impedance of a TT installation is generally higher than that found with a TN-S supply, an RCD is required to achieve a one second disconnection time in the event of an earth fault (in accordance with BS7671). As a result of these various requirements, virtually every Temporary Builders Supply rated from 200A to 1600A requires a main RCD and CT chamber, housed in an all-insulated enclosure (as there is no upstream protection to provide automatic disconnection of the supply). When the CT chamber is NOT provided by the electricity supplier, we have developed a range of insulated assemblies that combine CT Chambers and RCDs in ratings from 200A to 1600A. We also offer a range of free-standing cabinets, to house the CT chambers and RCDs. Outline details are as follows:

### (a) Combined CT Chambers and RCDs

To our standard (LR) and SSE requirements (SR).  
Cable entry and exit is through the base.

Part No.	Type No.	Rating
S030053R	CTC/ARC/400/LR	400A
S030986R	CTC/ARC/800/LR	800A
S031015R	CTC/ARC/1600/LR	1600A
S031340R	CTC/ARC/800/037/SR	800A
S031341R	CTC/ARC/1250/037/SR	1250A
S031350R	CTC/ARC/1600/037/SR	1600A

### (b) ISIA series GRP Outer Housings

On a TT supply, the CT Chamber and RCD must not be housed within a metal cabinet and we offer a range of free-standing, outdoor, GRP, Site Intake Assemblies (ISIAs) to house this equipment. Due to their weight, ISIAs must be located on a level surface and bolted-down. Part numbers are as follows:

Part No.	Type Number
S050472	ISIA/400 (houses S030053R)
S050473	ISIA/1600 (houses S030986R, S031015R, S031340R, S031341R and S031350R)

Drawings of these cabinets can be downloaded from our website.

### (c) Combined CT Chamber and RCD mounted within an ISIA Cabinet.

Due to the size and weight of combined assemblies, we can supply fully assembled ISIA cabinets fitted with CT chamber and RCD. This is particularly recommended for the 800A and 1600A variants. The part numbers of complete assemblies are as follows:

Part No.	Type Number	Rating
S201128	ISIA/CTC-ARC400/LR	2/400A
S201129	ISIA/CTC-ARC800/LR	800A
S201130	ISIA/CTC-ARC1600/LR	1600A

SSE versions can also be supplied to order.

Please see data sheet DDS110 for further details on ISIA assemblies and PDS023 for high current GRP RCDs.



800A Combined CTC & RCD, LR specification,  
with additional incoming spreader box



1250A Combined CTC & RCD, SSE specification,  
housed in an S050473 ISIA GRP Cabinet