



Department of consumer and corporate affairs / Ministère de la consommation et des corporations



**STANDARDS BRANCH - DIRECTION DES NORMES**

**NOTICE OF APPROVAL  
AVIS D'APPROBATION**

**T-104**

OTTAWA March 8, 1976

**ELECTROMAGNETIC INDUSTRIES SUB-SURFACE CURRENT TRANSFORMERS  
TYPES CS3-95 and CS3-125**

Apparatus

Primary Currents

Single Ratio

10, 15, 25, 40, 50, 75, 100,  
150 and 200 amperes

Dual Ratio

(Tapped Secondary)

25/50, 50/100 and 100/200  
amperes

Secondary Current

5 amperes

Frequency

Style

60 Hz

Dry type, moulded of cycloaliphatic  
epoxy

Voltage Class

BIL incorporated in type designation.

RATINGS

Type	Ratio	Cat. No.	Current Rating	Accuracy Rating	Rating Factor
CS3-95	Single	12101 to 12108	10 to 75	0.3B0.5	2.0
	"	12109	100	"	2.0
	"	12110	150	"	1.33
	"	12111	200	"	1.0
	"	12121 to 12129	10 to 100	0.3B2.0	2.0
	"	12130	150	"	1.33
	"	12131	200	"	1.0
(low tap)	Dual	12167 & 12169	25/50 & 50/100	0.3B0.5	2.0
(high tap)	"	12167 & 12169	25/50 & 50/100	0.3B2.0	1.0
(low tap)	"	12171	100/200	0.3B0.5	2.0
(high tap)	"	12171	100/200	0.3B2.0	1.0

CS3-125	Single	12201 to 12208	10 to 75	0.3B0.5	2.0
		12209	100	"	2.0
		12210	150	"	1.33
		12211	200	"	1.0
		12221 to 12228	10 to 75	0.3B2.0	1.5
		12229	100	"	2.0
		12230	150	"	1.33
		12231	200	"	1.0
(low tap)	Dual	12267 & 12269	25/50 & 50/100	0.3B0.5	2.0
(high tap)	"	12267 & 12269	25/50 & 50/100	0.3B2.0	1.0
(low tap)	"	12271	100/200	0.3B0.5	2.0
(high tap)	"	12271	100/200	0.3B2.0	1.0

Description

These transformers have been designed for underground service. They may be installed in vaults below grade in places where they may be submerged at times.

The cores are made of grain-oriented silicon steel.

The core and coils, after assembly and drying, are encapsulated in a cycloaliphatic epoxy resin. A special resilient layer between core and coils and the resin prevents severe stresses and eventual failure that could occur because of the different thermal coefficients of expansion of core steel, copper and the resin.

A ground shield of mesh completely surrounds the transformer just beneath the surface of the epoxy. This shield provides the proper voltage stress control and makes the unit completely safe to workmen.

The screen, mounting inserts and screws holding the secondary box are all bonded to the two ground bosses.

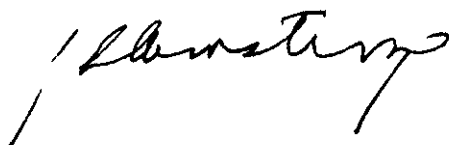
The primary (H1) terminal is a "flower pot" which will accept the standard inserts for elbow terminators. The purchaser must supply the insert and terminator. The H2 terminal is connected to both ground bosses in the end of the transformer and is also bonded to the ground screen and the threaded mounting inserts.

The secondary leads are flexible, PVC insulated copper cable arranged to prevent moisture entering the transformer by capillary action. They are each brought out through a neoprene grommet at the surface of the resin to prevent damage to the insulation at that point due to flexing. The leads are housed in a polyester terminal box of sturdy construction with neoprene gasket and cover. The box is fitted with two (2) - 1" IPS threaded openings for horizontal take-off and one knockout in the bottom for 1" IPS conduit. The flange for the cover is at 45 degree angle to the horizontal which gives maximum accessibility for wiring and connecting.

Permanent polarity markings for the primary and secondary terminals are provided.

Approval granted to:

Electromagnetic Industries Inc.,  
Clearwater, Florida, U.S.A.



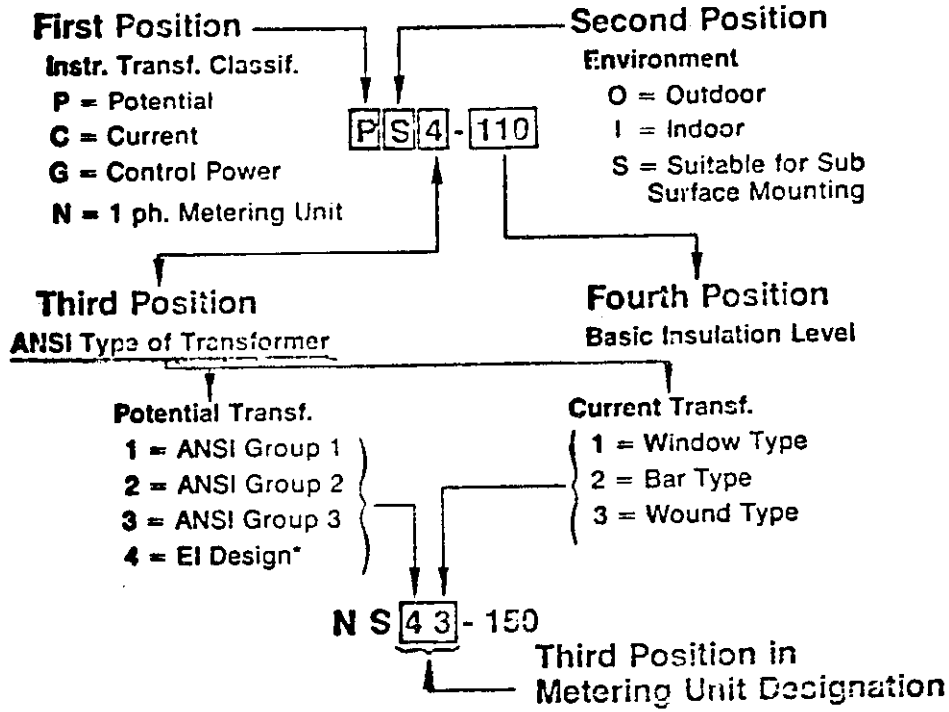
J.L. Armstrong,  
Chief, Standards Laboratory,  
Metrology and Laboratory Services.



D.L. Smith,  
Chief, Electricity and Gas Division,  
Metrology and Laboratory Services.

Ref: GL 1145-57/E80-155

# EXPLANATION OF THE TYPE DESIGNATIONS



**Prefix** - A letter appearing before the above type designations identifies another "family" of similar products: e.g. BCO1-110 is similar to the series CO1-110.

