

Quad Trim Winding Interconnection on 21Q40 Half Cell Wiring Diagrams

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Overview

I have reviewed seven wiring diagrams, all relating to 21Q40 installations. The drawings are 5300 074, 081, 082, 086, 099, 100, and 129. The trim wiring on all these drawings is correct for the depiction of the winding direction shown on the drawings.

Methods

SNS Tech Note 119 gives us the pole definition for “A” polarity for a normal quad when looking at the lead end of the magnet. This is shown in Figure 1. The lead end is defined by where the main winding leads emerge. The terminal blocks are on the opposite end, so when viewing the terminals blocks for the trim windings, the pole definitions are mirror images. This is shown in Figure 2.

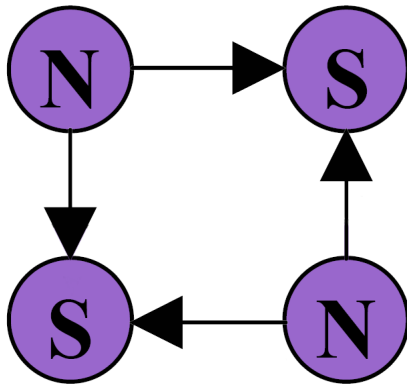


Figure 1 - Lead End, “A” Polarity

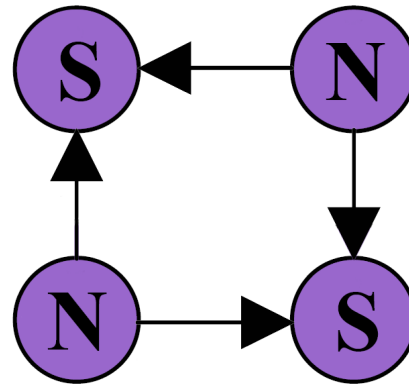
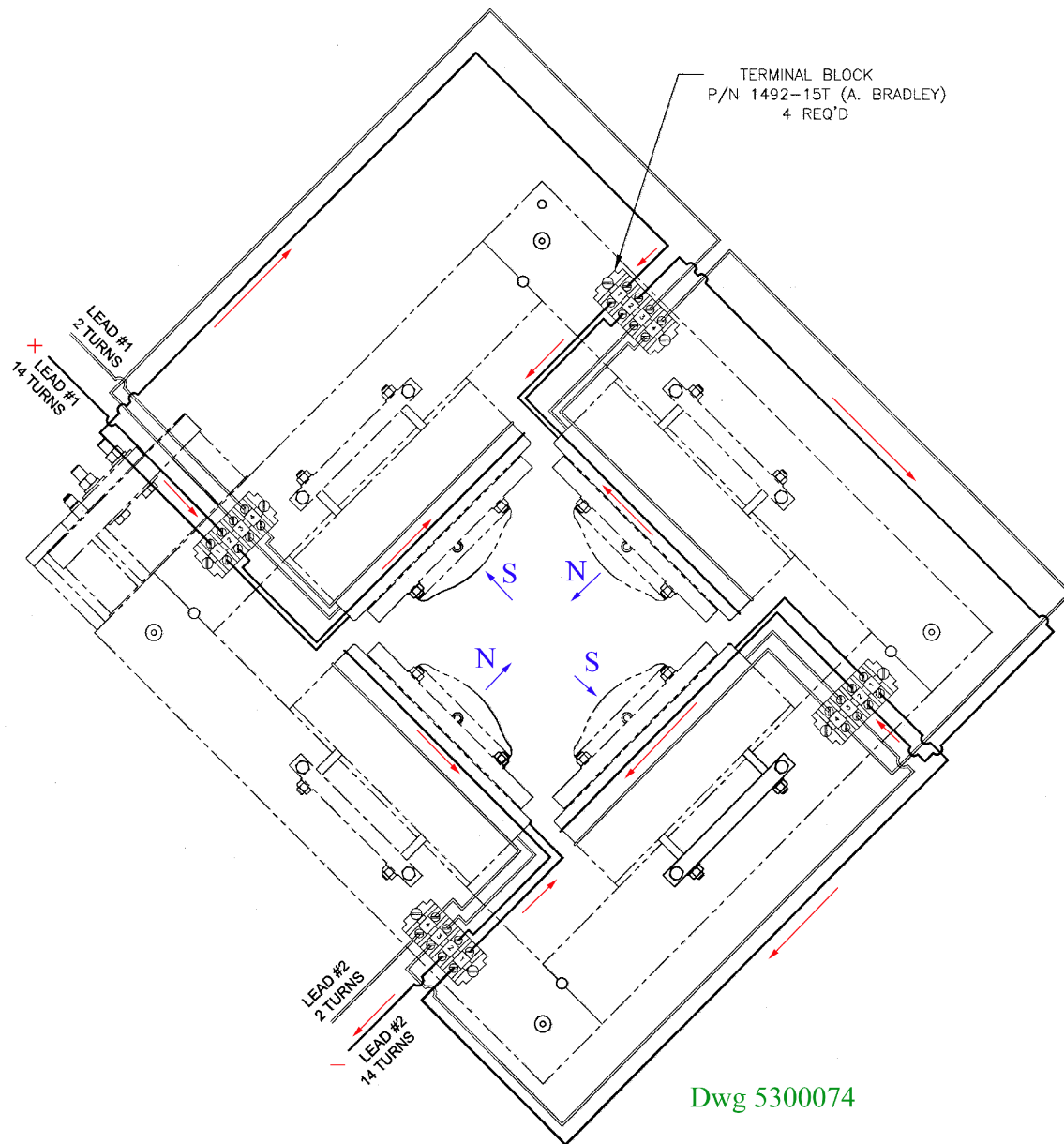


Figure 2 - Non-lead End, “A” Polarity

With a correct interconnection, a positive current entering terminal 1 will produce an “A” Polarity. I checked the drawings by marking up the relevant portion of each. The results are attached as a reference.

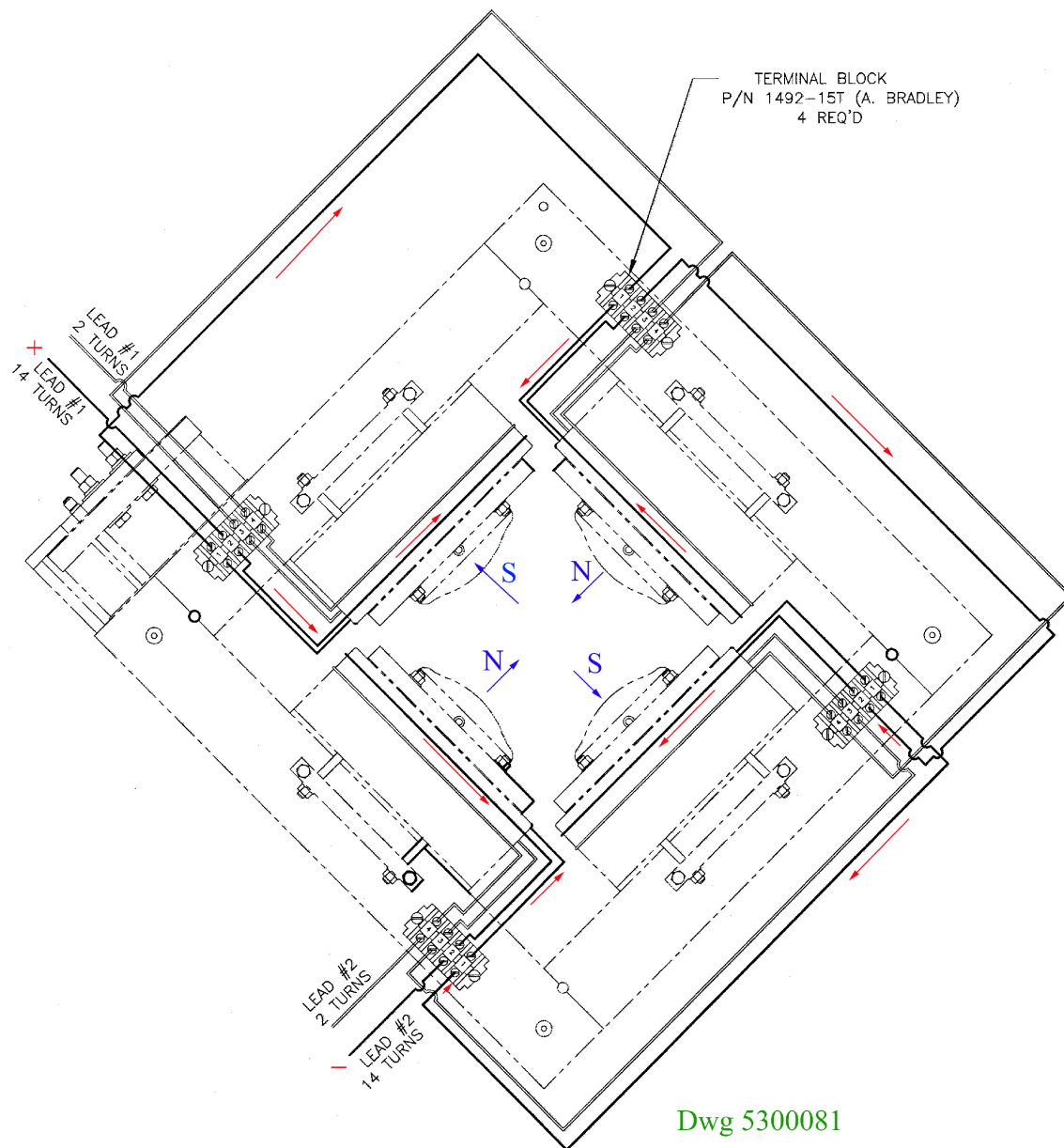
Limitations

For this drawing update, no coil drawings were changed. It is assumed by the drawing set that the person attaching the trim leads to the terminals will know how to do so without identification of the leads on the coil winding diagram.



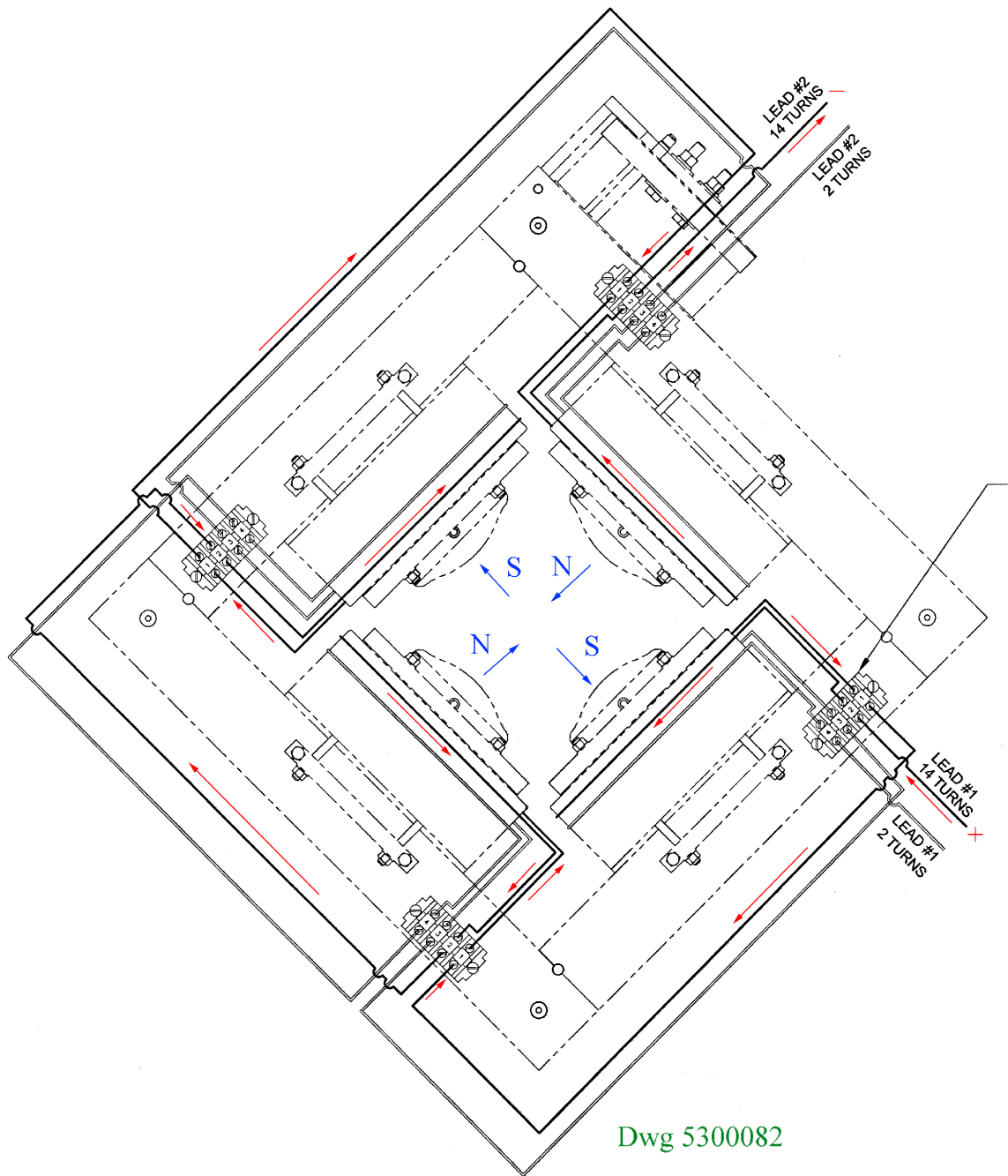
Dwg 5300074

TRIM COILS WIRING DIAGRAM OF QUAD 21Q40
VIEW TOWARD DIPOLE

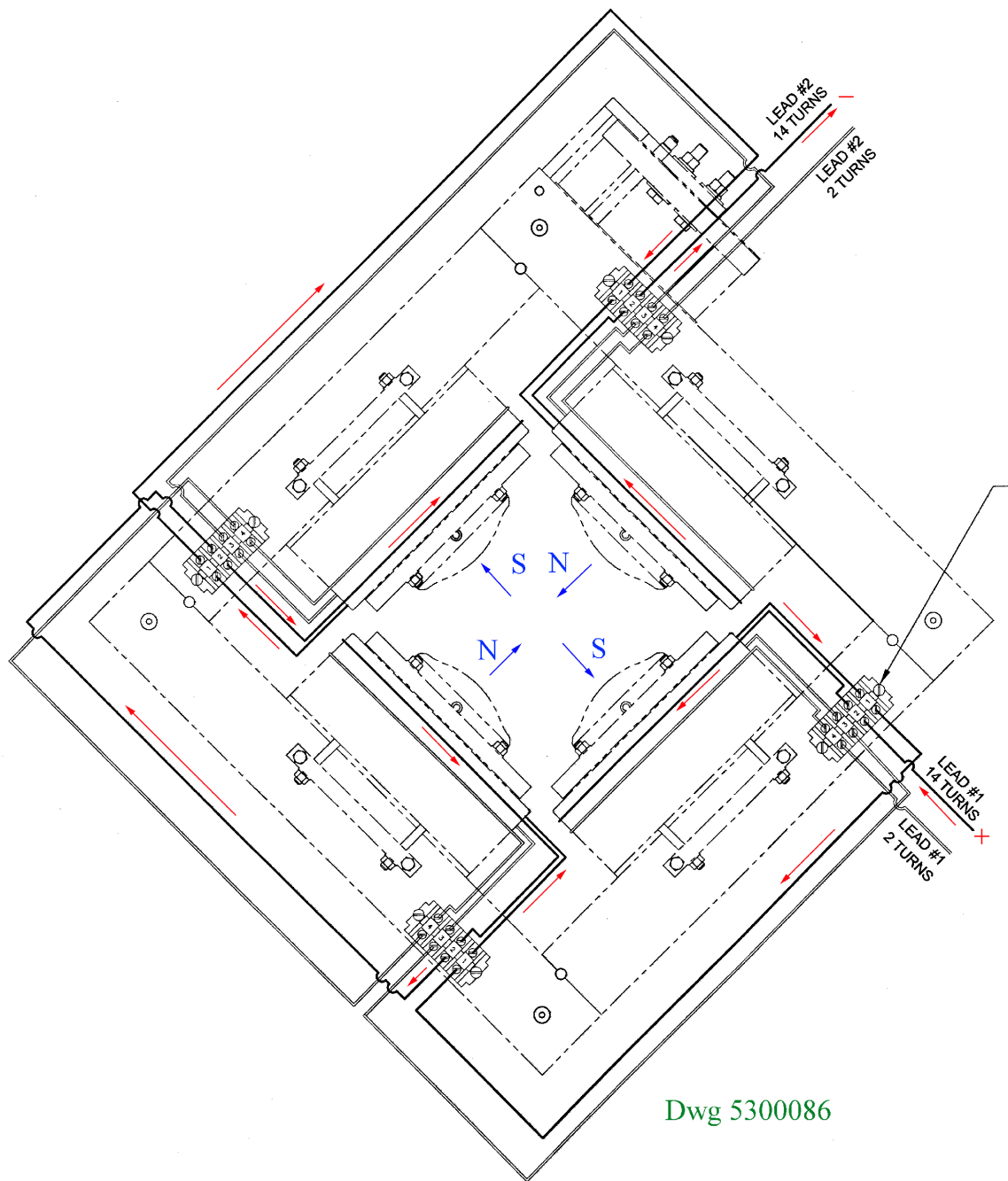


Dwg 5300081

TRIM COILS WIRING DIAGRAM OF QUAD 21Q40
VIEW TOWARD DIPOLE

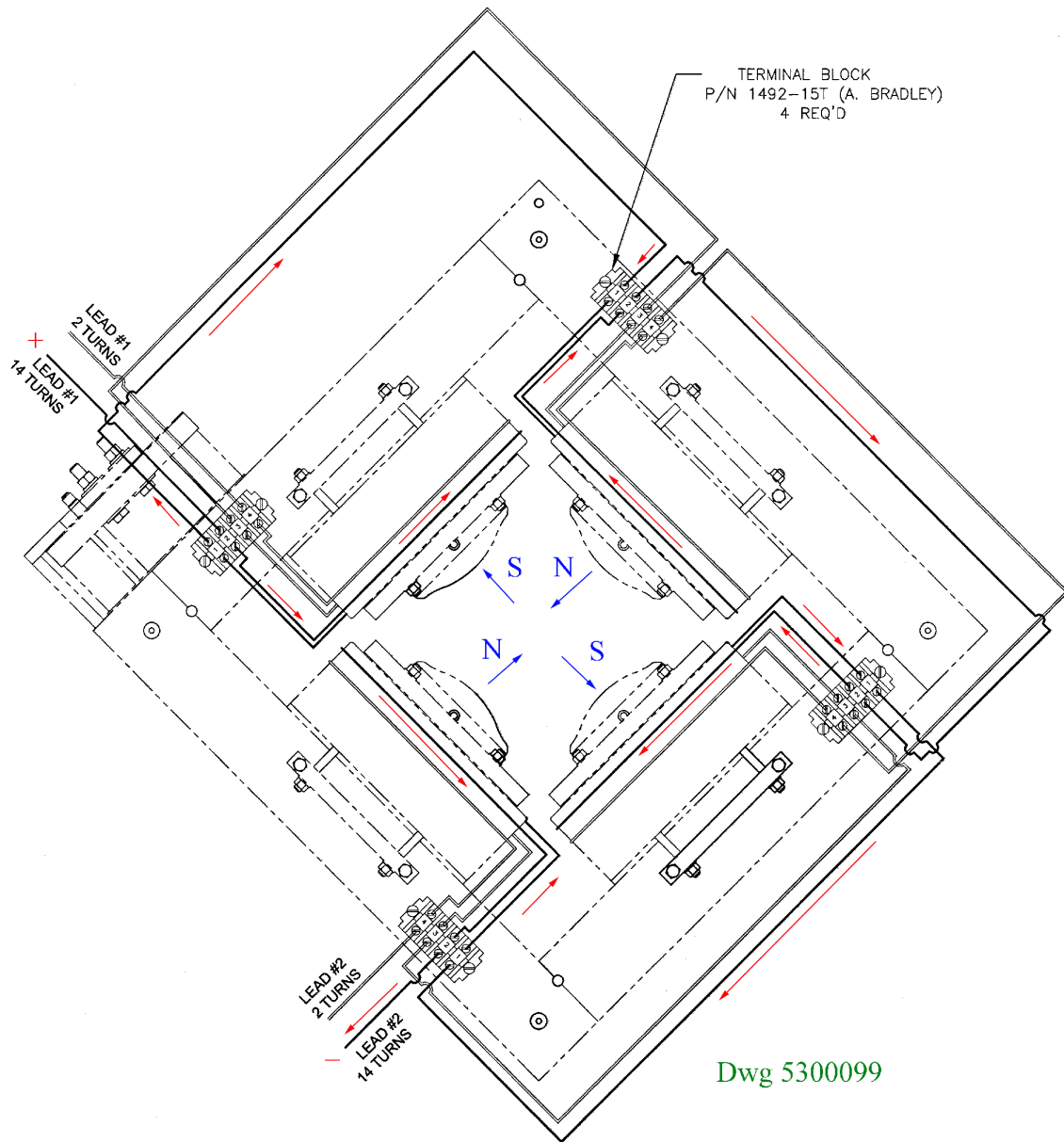


TRIM COILS WIRING DIAGRAM OF QUAD 21Q40
VIEW TOWARD DIPOLE

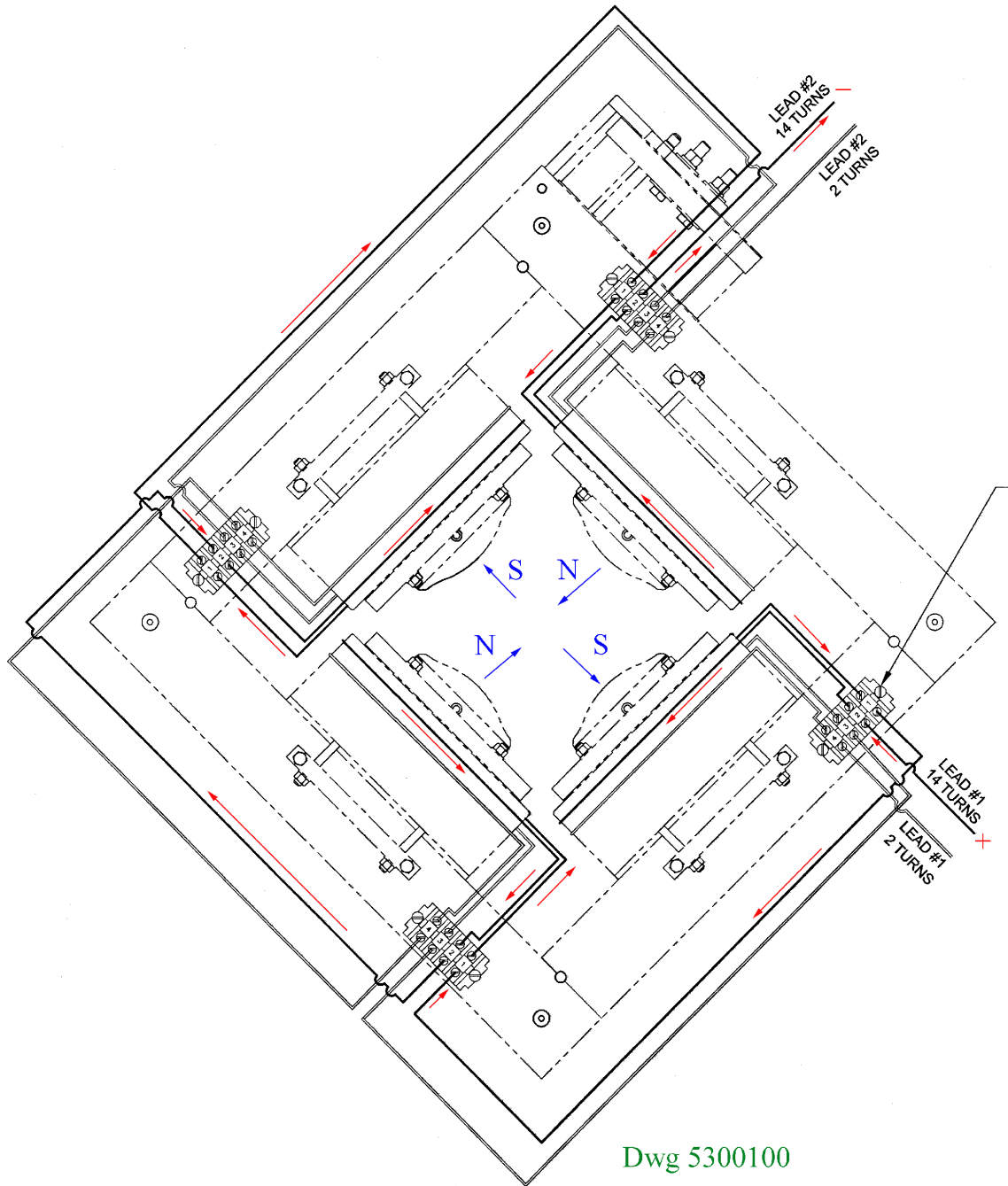


Dwg 5300086

TRIM COILS WIRING DIAGRAM OF QUAD 21Q40
VIEW TOWARD DIPOLE

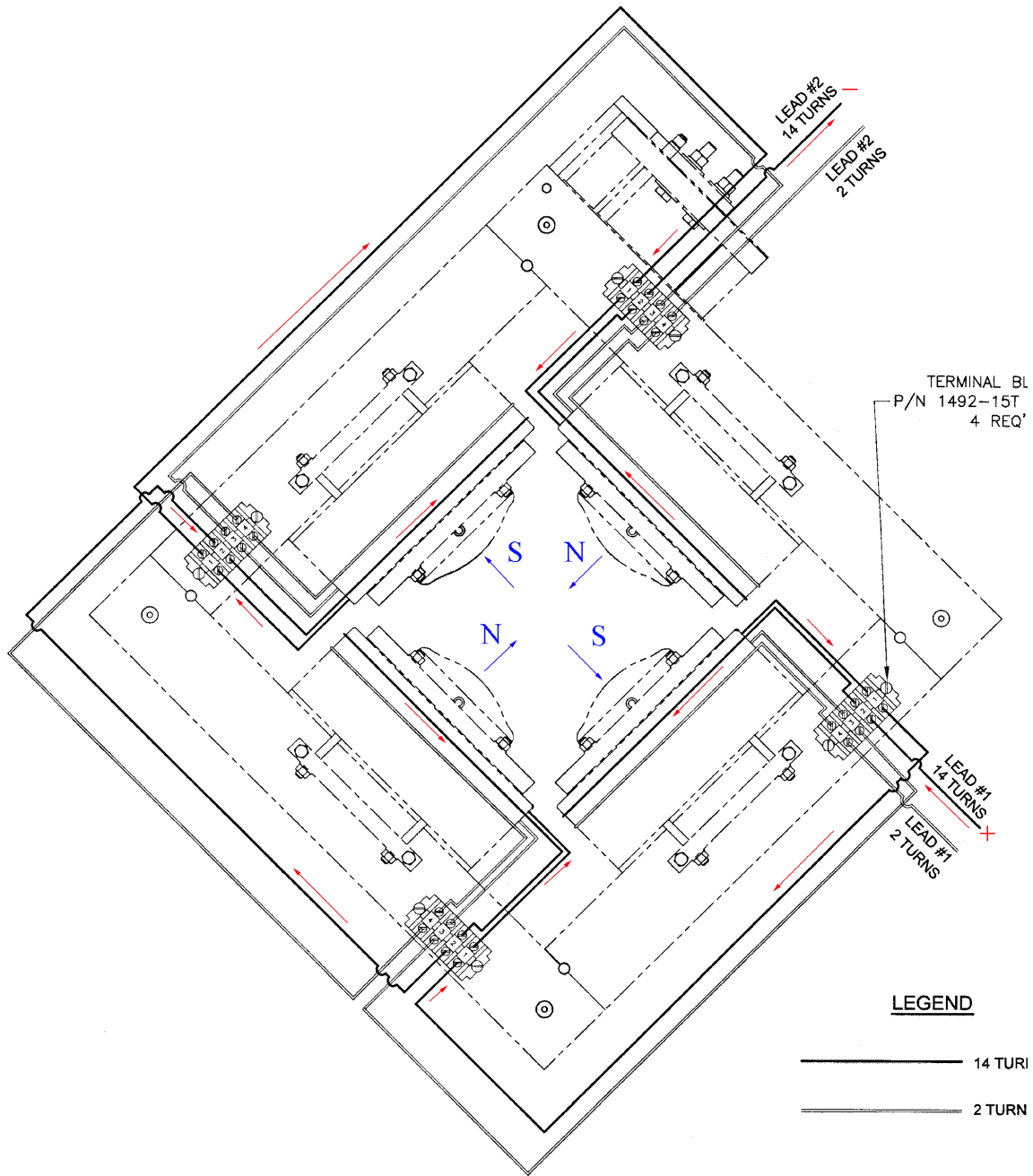


TRIM COILS WIRING DIAGRAM OF QUAD 21Q40
VIEW TOWARD DIPOLE



Dwg 5300100

TRIM COILS WIRING DIAGRAM OF QUAD 21Q40
VIEW TOWARD DIPOLE



Dwg 5300129

TRIM COILS WIRING DIAGRAM OF QUAD 21Q40
VIEW LOOKING AT NON-LEAD END