

TRICONEX

Tricon Version 9-10 Systems

Field Terminations Guide ***for Tricon v9-v10 Systems***

Assembly No. 9700052-018

Table 1 Termination Product Options (Listed by Module Part Number) (continued)

Module Part #	Module Description	Commoned Term Panels	Non-Common. Term Panels	Basic Term Panels	Nonincendive Term Panels	RG 1.180 Term Panels	Fanned-out Cables	Bypass Panels	ERT Loop-Back Cables/Panels
3603E	DO, 120 VDC, 16 pts.	9661-910 9664-810	n/a	9651-110	n/a	n/a	9101-010	n/a	9673-810
3603T	DO, 120 VDC, 16 pts.	9664-810	n/a	n/a	n/a	n/a	n/a	n/a	9673-810
3604E	DO, 24 VDC, 16 pts.	9662-810	9662-110	9653-610	9671-610	n/a	9101-010	n/a	9671-810
3607E	DO, 48 VDC, 16 pts.	9667-810	9667-110	9652-610	n/a	n/a	9101-010	n/a	9672-810
3611E	DO, 115 VAC, 8 pts.	9661-510	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3613E	DO, 120 VDC, 8 pts.	9661-810	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3614E	DO, 24 VDC, 8 pts.	9662-910	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3615E	DO, 24 VDC, low power, 8 pts.	9662-710	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3617E	DO, 48 VDC, 8 pts.	9667-910	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3623	DO, 120 VDC, 16 pts.	9661-910	n/a	9651-110	n/a	n/a	9101-010	n/a	n/a
3623T	DO, 120 VDC, 16 pts.	9664-810	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3624	DO, 24 VDC, 16 pts.	9662-610	n/a	9653-610	9671-610	n/a	9101-010	n/a	n/a
3625	DO, 24 VDC, 32 pts.	9662-610	n/a	9653-610	9671-610	n/a	9101-010	n/a	n/a
3636R 3636T	Relay output (non-triplicated), 32 pts.	n/a	9668-110	9651-110	n/a	n/a	9101-010	n/a	n/a
3664	Dual DO, 24 VDC, self-protected, 32 pts.	9662-610	n/a	9653-610	9671-610	n/a	9101-010	n/a	9671-810
3674	Dual DO, 24 VDC, self-protected, 32 pts.	9662-610	n/a	9653-610	9671-610	n/a	9101-010	n/a	9671-810
3805E 3805H	AO, 4–20 mA, 8 pts.	n/a	n/a	9853-610	9861-610	9860-610	n/a	n/a	n/a
2870H	AO HART Interface	n/a	n/a	9853-610	9861-610	9860-610	n/a	n/a	n/a
3806E	AO, 6 4–20 mA outputs, 2 20–320 mA outputs	n/a	n/a	9863-710 (special panel)	n/a	n/a	n/a	n/a	n/a
3807	AO, 4 bipolar -60 to 60 mA outputs	9871-810	n/a	n/a	9871-810	n/a	n/a	n/a	n/a

Dual Digital Output Modules

This table identifies termination products you can use with dual digital output modules.

Table 10 Termination Products for 32-Point Dual Digital Output Modules

Termination Option	24 VDC (3664, 3674)
Standard termination panel, commoned	9662-610
Basic termination panel	9653-610
Nonincendive termination panel	9671-610
Relay panel, commoned	9671-810
Fanned-out cable	9101-010

Note You need two termination panels (or cables) for each 32-point dual digital output module. Also, you can mix any combination of two termination products listed. For example, you may use two 9662-610 panels, or one 9653-610 basic panel and one 9101-010 fanned-out cable, and so on.

Relay Output Modules

This table identifies termination products you can use with relay output modules.

Table 11 Termination Products for 32-Point Relay Output Modules

Termination Option	Non-Commoned, Normally Open (3636R, 3636T)
Standard termination panel, non-commoned	9668-110
Basic termination panel, non-commoned	9651-110
Fanned-out cable	9101-010

Note You need two termination panels (or cables) for each 32-point relay output module. Also, you can mix any combination of two termination products listed. For example, you may use two 9668-110 panels, two 9651-110 basic panels, or one 9668-110 panel and one 9651-110 basic panel.

- 5 Attach the other end of the interface cable to the ELCO connector directly above the corresponding I/O module on the Tricon backplane in the same manner as you connected the cable to the termination panel, as described in [step 4](#).
- 6 Attach the wires from your field devices to the screw terminals on the termination panel. See the [Torque Specifications for Field Wiring Terminals](#) section.
- 7 Perform a static check of the wiring.
- 8 If Tricon power was removed in step 1, restore power to the Tricon system.
- 9 Apply field power to the termination panel.
- 10 Verify that all I/O points are connected to the appropriate field devices and are operating correctly.

Note To inspect input points and force output points, see the *Planning and Installation Guide for Tricon v9-v10 Systems*.

- 11 Load and test the control program using TriStation.

If the program operates as intended, you are ready to enable the process equipment according to the safety requirements for your environment.

If you need additional information on how to install external field termination panels, contact the IPS Global Client Support (GCS) center.

Torque Specifications for Field Wiring Terminals

Tighten the screws on the field wiring and power terminals of the ETPs in the list below to this torque:

4.425–5.310 lb_f in (0.3688–0.4425 lb_f ft) (0.5–0.6 Nm)

9551-110	9651-110	9664-110	9761-210	9787-110
9552-610	9652-610	9664-810	9761-410	9789-610
9553-610	9653-610	9667-110	9762-410	9790-610
9561-810	9661-610	9667-910	9762-210	9791-610
9561-110	9661-710	9667-610	9763-810	9792-610
9562-810	9661-110	9667-710	9765-210	9793-110
9563-810	9661-810	9667-810	9765-610	9794-110
9565-810	9661-510	9668-110	9766-210	9795-610
9565-710	9661-910	9750-410	9766-510	9853-610
9566-710	9662-110	9750-810	9771-210	9860-610
9566-810	9662-910	9750-210	9782-110	9861-610
9567-810	9662-610	9750-310	9783-110	9863-710
9570-610	9662-710	9753-110	9784-610	
9571-610	9662-810	9760-410	9785-610	
9572-610	9663-610	9760-210	9786-110	

16-Point Non-Commoned Digital Output Term Panels

This section describes non-commoned digital output term panels. Model numbers of these term panels are:

- 9251-210 (120 VDC, non-commoned, 16 pts., 3603B module)
- 9661-110 (115 VAC, non-commoned, 16 pts.)
- 9662-110 (24 VDC, non-commoned, 16 pts.)
- 9664-110 (115 VAC, non-commoned, 16 pts.)
- 9667-110 (48 VDC, non-commoned, 16 pts.)
- 9668-110 (non-commoned relay output, 16 pts.)

This figure represents a typical 16-point non-commoned digital output termination panel for the 3603B module.

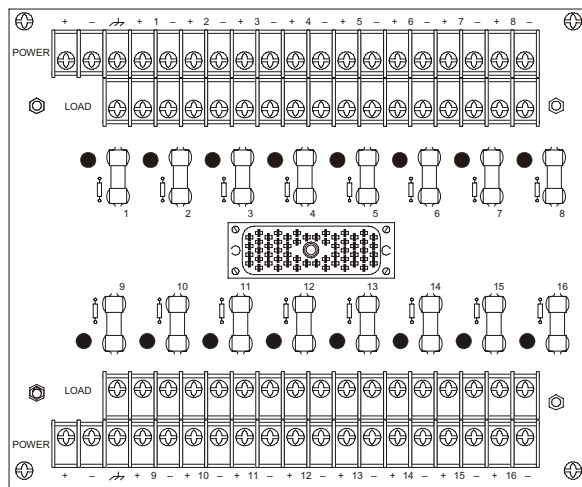


Figure 88 Typical 16-Point Non-Commoned DO Term Panel for Module 3603B

This figure represents a typical 16-point non-commoned digital output termination panel for modules 3601E, 3604E, and 3607E.

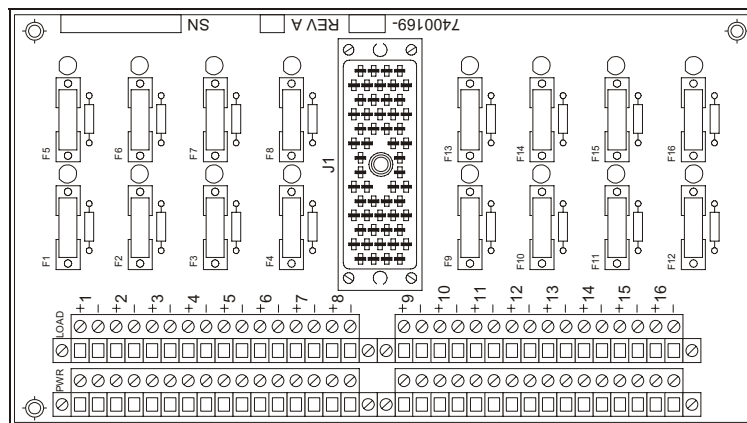


Figure 89 Typical 16-Point Non-Commoned DO Term Panel for Modules 3601E, 3604E, and 3607E

Simplified Schematics

This is a simplified schematic of a typical 16-point non-commoned digital output module with a non-commoned digital output panel (1 of 16 points shown).

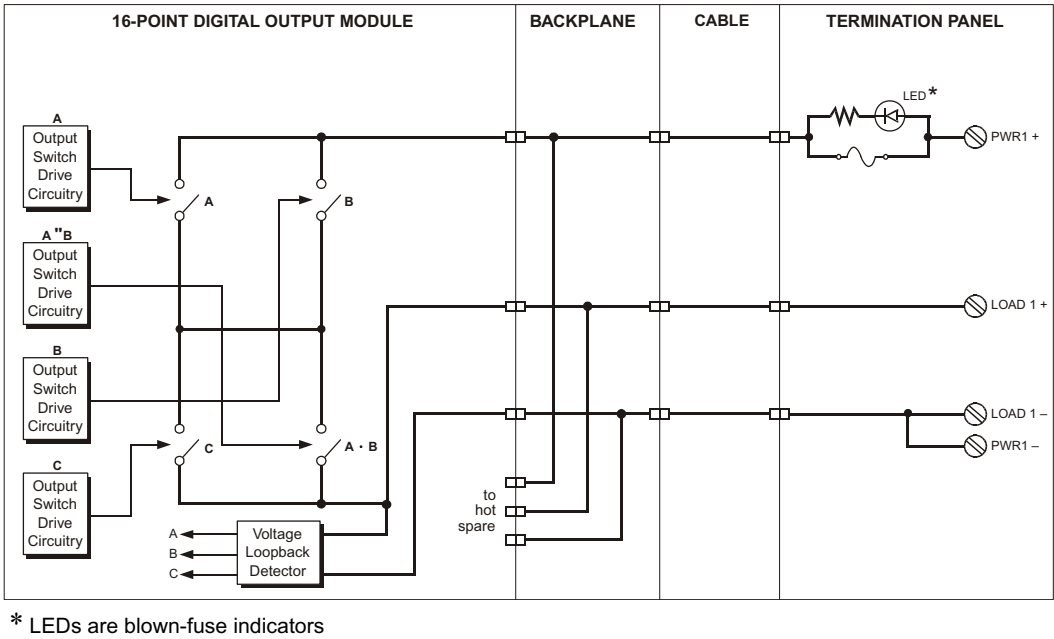


Figure 101 Simplified Schematic of a 3607E DO Module with a Non-Commoned DO Panel

9668-110 (non-commoned relay output, 16 pts.)

Termination panel 9668-110 is a non-commoned relay output panel and has:

- 16 LOAD+ and LOAD- terminals
- 16 PWR+ and PWR- terminals
- 16 fuses

The modules compatible with 9668-110 have 32-points, which means that you must use two term panels for each relay output module. Each term panel comes with two sets of labels: 1-16 and 17-32. For information on how to apply the labels, see [Appendix F, Panel Labels](#).

Specifications

This table describes specifications for 9668-110.

Table 87 Specifications for Term Panel 9668-110

Feature	Description
Panel type	Non-commoned relay output
Points	16

Compatible Modules

This table describes relay output modules compatible with 9668-110.

Table 88 Modules Compatible with 9668-110

Module Part Number	Points per Module	Module Description	Fuse
3636R	32	Non-commoned, simplex, normally open, galvanically-isolated	2.5A, fast
3636T	32	Non-commoned, simplex, normally open, galvanically-isolated	2.5A, fast

Field Wiring Diagrams

This figure illustrates how to connect a 32-point relay output module and a 9668-110 to the field (1 of 32 points shown).

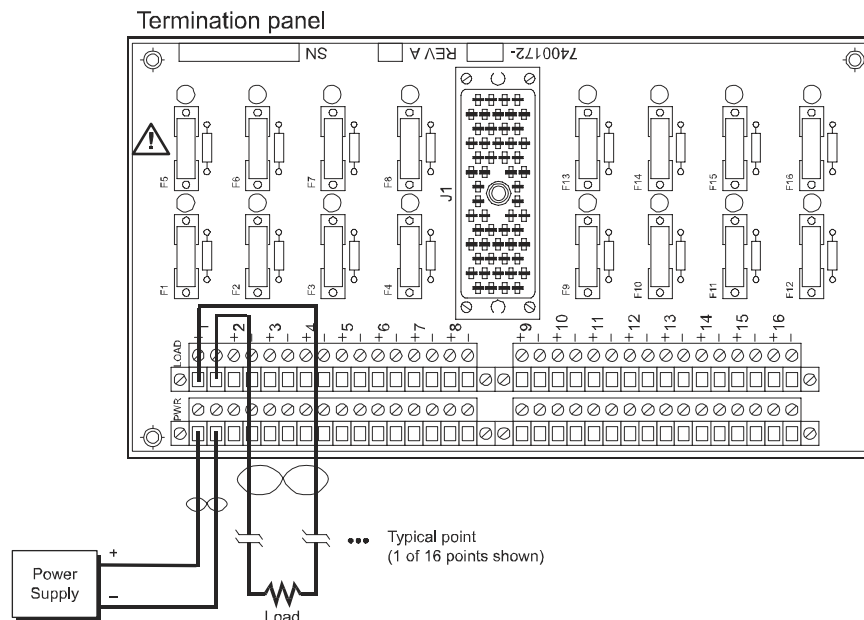


Figure 102 Field Wiring for 9668-110 with a 3636R or 3636T Relay Output Module

Simplified Schematics

This is a simplified schematic of a typical 32-point non-commoned relay output module with a non-commoned relay output panel (1 of 32 points shown).

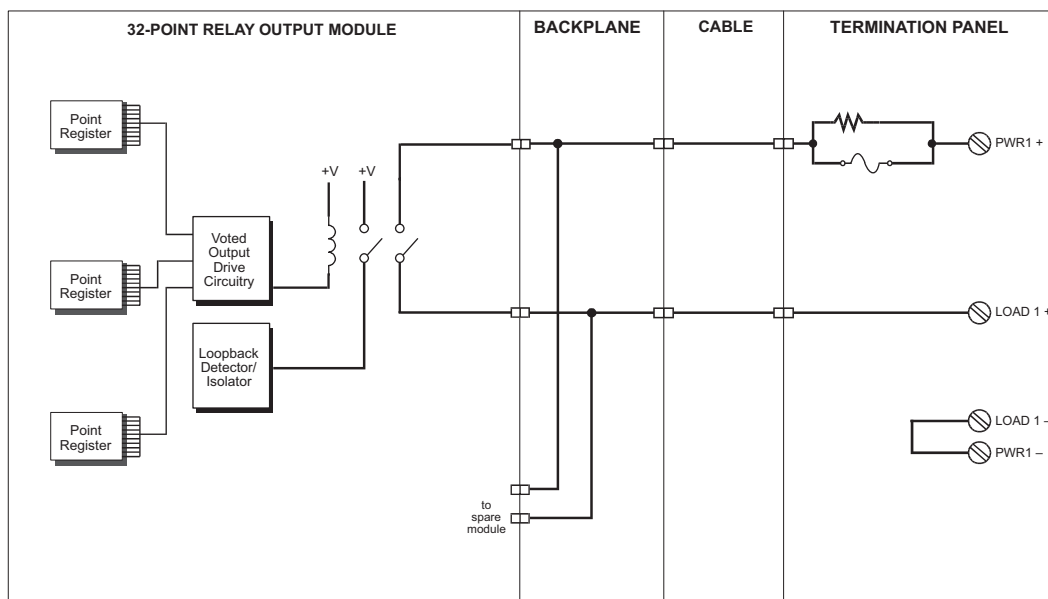


Figure 103 Simplified Schematic of a 3636R or 3636T Relay Output Module with a Non-Commoned Relay Output Panel

Table 209 Pulse Input Panel Key Positions

Termination panel	Rating	Module	Small key	Large key
9753-110	Pulse	3510 3511	1	5

Table 210 Relay Output Panel Key Positions

Termination panel	Rating	Module	Small key	Large key
9668-110	Relay	3636R 3636T	3	1
9651-110	Relay	3636R 3636T	3	1

Table 211 Analog Input Panel Key Positions

Termination panel	Rating	Module	Small key	Large key
9750-210	4-20 mA (5 VDC)	3704E	1	5
9750-810	0-5/0-10 VDC	3704E	1	5
9753-110	0-5/0-10 VDC	3700A 3701 3703E	1	5
9761-210	4-20 mA (5 VDC)	3700	1	5
9761-410	4-20 mA (10 VDC)	3701	1	5
9763-810	0-5/0-10 VDC	3700 3701	1	5
9762-210	4-20 mA (5 VDC)	3703E	1	5
9762-410	4-20 mA (10 VDC)	3703E	1	5
9763-810	0-5/0-10 VDC	3703E	1	5
9765-610	Thermocouple	3708E	1	5
9766-210	Thermocouple	3706A	1	5
9766-510	Thermocouple	3706A	1	5
9760-210	4-20 mA (5 VDC)	3704E	1	5
9760-410	4-20 mA (10 VDC)	3704E	1	5
9765-210	4-20 mA (5 VDC)	3704E	1	5

Table 220 Panel Dimensions *(continued)*

Panel Model	Width (across DIN rail)	Length (along DIN rail)	Height (out from DIN rail)
9662-910	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9663-610	4.5 in (11.43 cm)	7.75 in (19.685 cm)	4.25 in (10.795 cm)
9664-110	4.5 in (11.43 cm)	9.88 in (25.08 cm)	4.25 in (10.795 cm)
9664-810	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9667-110	4.5 in (11.43 cm)	7.75 in (19.685 cm)	4.25 in (10.795 cm)
9667-610	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9667-710	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9667-810	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9667-910	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9668-110	4.5 in (11.43 cm)	7.75 in (19.685 cm)	4.25 in (10.795 cm)
9670-110	7 in (17.78 cm)	19 in (48.26 cm)	4.75 in (12.065 cm)
9670-610	7 in (17.78 cm)	19 in (48.26 cm)	4.75 in (12.065 cm)
9671-610	4.42 in (11.23 cm)	5.02 in (12.75 cm)	4.25 in (10.795 cm)
9671-810	7 in (17.78 cm)	19 in (48.26 cm)	4.75 in (12.065 cm)
9672-810	7 in (17.78 cm)	19 in (48.26 cm)	4.75 in (12.065 cm)
9673-810	7 in (17.78 cm)	19 in (48.26 cm)	4.75 in (12.065 cm)
9750-210	3 in (7.62 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9750-310	3 in (7.62 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9750-410	3 in (7.62 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9750-810	3 in (7.62 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9753-110	3 in (7.62 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9760-210	4.5 in (11.43 cm)	10 in (25.4 cm)	4.25 in (10.795 cm)
9760-410	4.5 in (11.43 cm)	10 in (25.4 cm)	4.25 in (10.795 cm)
9761-210	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9761-410	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9762-210	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9762-410	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9763-810	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9764-310	5.22 in (13.26 cm)	19 in (48.26 cm)	3.24 in (8.23 cm)
9765-210	4.5 in (11.43 cm)	10 in (25.4 cm)	4.25 in (10.795 cm)
9765-610	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)
9766-210	4.5 in (11.43 cm)	5 in (12.7 cm)	4.25 in (10.795 cm)

16-Point Non-Commoned DI/DO/RO Panels

This figure illustrates placement of labels for 16-point digital input, digital output, and relay output termination panels.

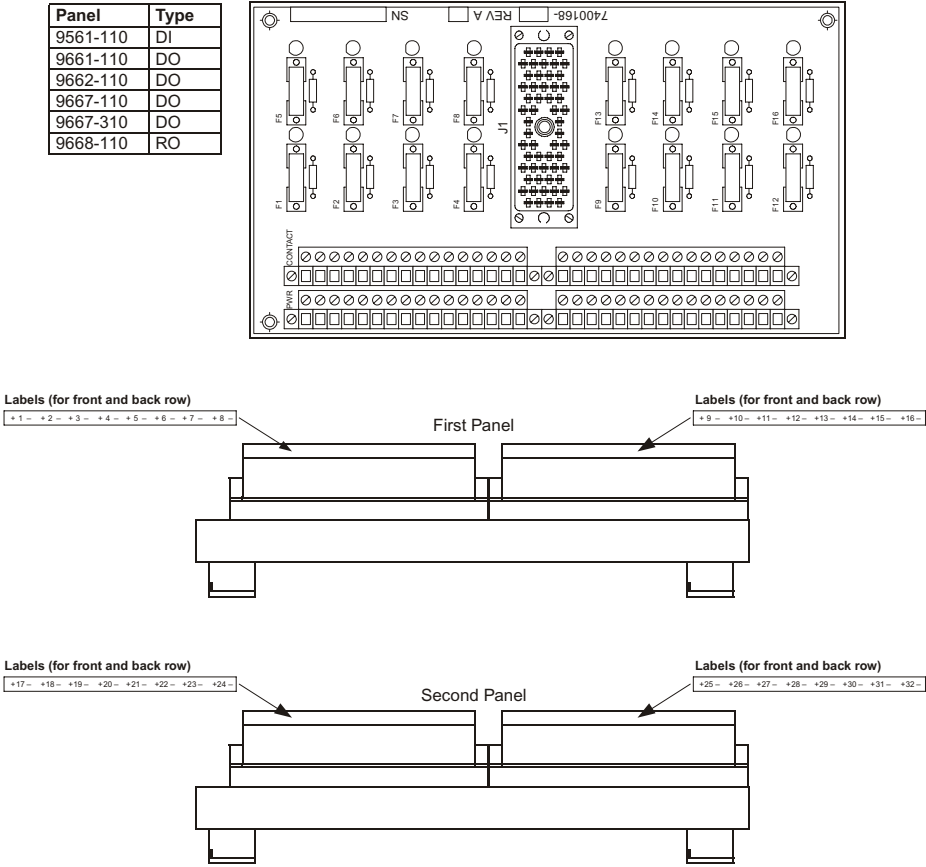


Figure 269 16-Point Non-Commoned DI/DO/RO Panel Label Placement

Table 221 Part Number Cross-Reference *(continued)*

Model #	ETA	Cable
9661-610	3000520-160	4000094-110
9661-710	3000520-190	4000094-110
9661-810	3000550-180	4000094-110
9661-910	3000520-180	4000094-110
9662-110	3000570-310	4000094-310
9662-610	3000520-390	4000094-310
9662-710	3000550-390	4000094-310
9662-810	3000520-380	4000094-310
9662-910	3000550-380	4000094-310
9663-610	3000725-160	4000094-110
9664-110	3000726-110	4000094-110
9664-810	3000520-170	4000094-110
9667-110	3000570-710	4000094-210
9667-610	3000520-290	4000094-210
9667-710	3000520-260	4000094-210
9667-810	3000520-280	4000094-210
9667-910	3000550-280	4000094-210
9668-110	3000590-110	4000094-110
9670-110	3000290-110	4000111-110
9670-610	3000290-160	4000111-110
9671-610	3000769-390	4000166-310
9671-810	3000290-380	4000111-310
9672-810	3000290-280	4000111-210
9673-810	3000290-181	4000111-110
9750-210	3000420-120	4000093-510
9750-310	3000420-310	4000093-310
9750-410	3000420-410	4000093-210
9750-810	3000420-180	4000093-510
9753-110	3000400-510	4000103-510
9760-210	3000470-510	4000093-510
9760-410	3000470-530	4000093-510
9761-210	3000510-510	4000103-510