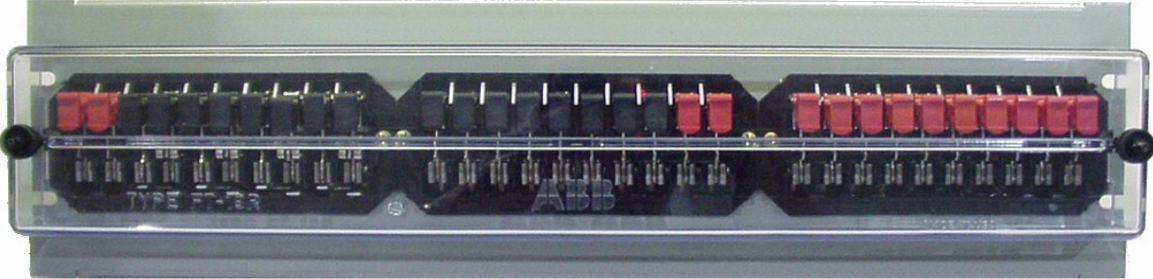
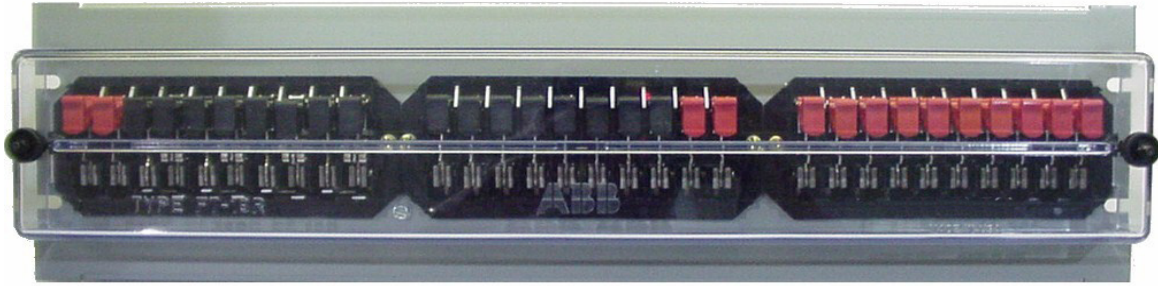


Flexitest™ Switch Assemblies

Type FT-19R and FT-19RX





APPLICATION

The type FT-19R (standard length) and FT-19RX (Xtended length) Flexitest Switch Assemblies for rack and switchboard mounting permit convenient isolation of switchboard relays, meters, and instruments, allowing quick and easy multi-circuit testing by any conventional test method. FT-19R and FT-19RX both utilize FT-1 switches to isolate protective relays, meters, and equipment, allowing the user to safely service installed equipment without disturbing the system.

FEATURES

The FT-19R and FT-19RX assemblies accommodate up to three FT-1 switches mounted on a 19" wide, two-rack unit (2RU), three-rack unit (3RU), or four-rack unit (4RU) high (steel or brushed aluminum) mounting panel. Any combination of FT-1 switches may be selected. Steel panels are commonly available in gray, beige and black although panel color or finish, as well as panel height, can be customized to meet the user's requirements. The three rack unit (3RU) assembly also allows switches to be positioned off-center, in either low or upper mounting positions in the rack panel, allowing room for special customer label requirements.

The FT-19RX extends the rear terminals of the FT-1 switches to the same depth as most 19" rack mounted equipment thereby providing improved access to the rear terminals. FT-19RX two-rack unit assemblies (2RU) allow the user to mount protective relays or other equipment in the racks directly above and below the FT-19RX, optimizing the space in the rack and reducing the amount of wire required.

Either assembly can be ordered with a full-length clear cover (standard), or optional individual clear covers for each switch. All clear covers allow the switch handles to be opened or closed when the cover is in place, which is especially important during maintenance and repair of equipment. Full-length black or individual black covers are also available for applications that require switch handles to be always closed when the cover is on. All covers can be secured with a meter seal or similar lockout device.

Both the FT-19R and FT-19RX Switch Assemblies make troubleshooting, testing, and wiring easier and more reliable. They also help to prevent inadvertent or unintended equipment operation.

ADVANTAGES

- **Safety** - the positive make before break current shorting feature of the FT-1 switches safely isolate equipment from CT (current transformer) circuits.
- **Security** - meter seals can be inserted through the cover studs to prevent unauthorized access.
- **Convenience** - immediate access to relay or other device circuits without disconnecting any wiring.
- **Flexibility** - switches are available in various combinations of up to 10 current or potential poles.
- **Quality** - over 50 years of field proven application.

SPECIFICATIONS

The standard length FT-19R assembly and the extended length FT-19RX are rated at 600 volts and 30 amps. All assemblies meet or exceed all requirements of ANSI/IEEE Standard C37-90.

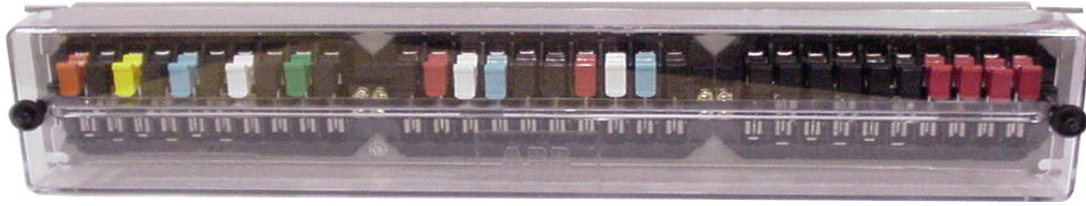
MOUNTING

The FT-19R and FT-19RX are designed for mounting on 19-inch rack structures or conventional panels. Connections, layout, weight and dimensions are shown on page 21- 23, figures 1, 2 and 3.

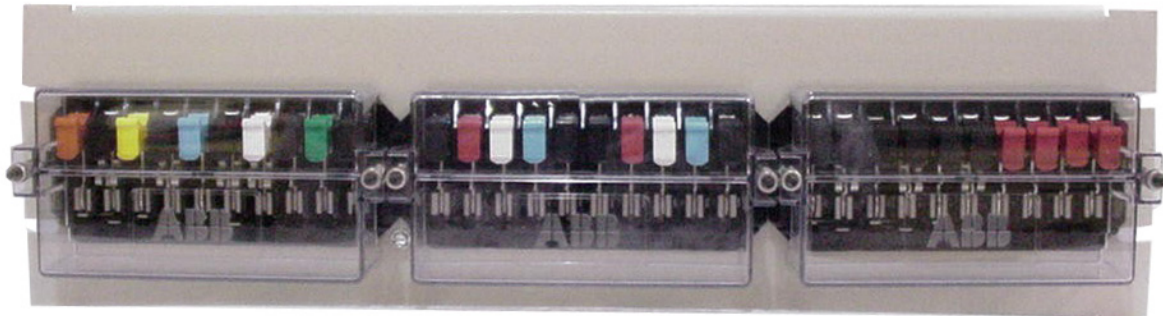
WARRANTY

All products made at ABB Protective Relays and Switches Division are backed by a 12-YEAR warranty. The quality of ABB products comes from years of experience and vigorous quality testing programs.





FT-19R 2RU with Full Length Clear Cover



FT-19R 3RU with Individual Clear Covers



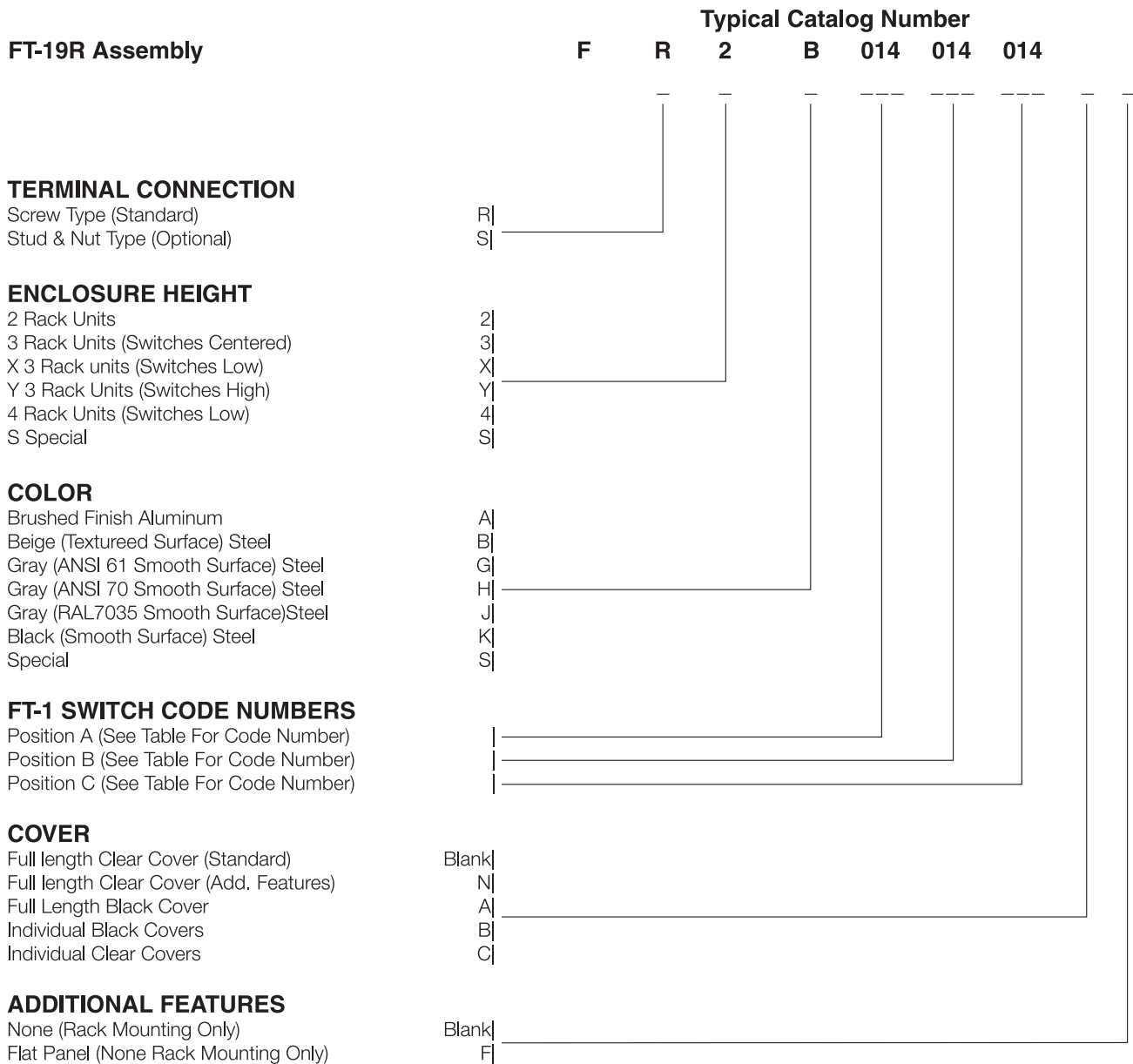
FT-19 3RU with Full Length Clear Cover. Switches mounted in the lower position, with special customer labels



FT-19RX 3RU with Full Length Clear Cover

FT-19R Flexitest Switch Assembly

The FT-19R Assembly consists of up to three FT-1 switches mounted in a 19 inch wide, two, three or four rack unit assembly for rack or switchboard mounting. Any combination of FT-1 switch styles may be selected. The assembly includes a see-through plastic cover. (DB 41-078)



NOTE

Code "S" is used to identify special requirements

FT-19RX Flexitest Switch Assembly with extended switches

The FT-19RX Assembly consists of up to three FT-1X switches mounted in a 19 inch wide, two, three or four rack unit assembly for rack or switchboard mounting. Any combination of FT-1X switch styles may be selected. The assembly includes a see-through plastic cover as standard. (DB 41-078)

Typical Catalog Number

F R 2 B 014 014 014 N X08

FT-19RX Assembly

TERMINAL CONNECTION

Screw Type (Standard)
Stud & Nut Type (Optional)

R|
S|

ENCLOSURE HEIGHT

2 Rack Units
3 Rack Units (Switches Centered)
X 3 Rack units (Switches Low)
Y 3 Rack Units (Switches High)
4 Rack Units (Switches Low)
S Special

2|
3|
X|
Y|
4|
S|

COLOR

Brushed Finish Aluminum
Beige (Textured Surface) Steel
Gray (ANSI 61 Smooth Surface) Steel
Gray (ANSI 70 Smooth Surface) Steel
Gray (RAL7035 Smooth Surface)Steel
Black (Smooth Surface) Steel
Special

A|
B|
G|
H|
J|
K|
S|

FT-1 SWITCH CODE NUMBERS

Position A (See Table For Code Number)
Position B (See Table For Code Number)
Position C (See Table For Code Number)

|
|
|

COVER

Full length Clear Cover
Full Length Black Cover
Individual Black Covers
Individual Clear Covers

N|
A|
B|
C|

EXTENDED LENGTH SWITCHES

8.25 Inches
10.25 Inches

X08|
X10|

ADDITIONAL FEATURES

None (Rack Mounting Only)
Flat Panel (None Rack Mounting Only)

Blank|
F|

NOTE

Code "S" is used to identify special requirements

Please note designation for FT-19RX will have X in the style number.

ORDERING INFORMATION FOR FT-19R/FT-19RX

Terminal Connections

The FT-1 Switches for FT-19R and FT-19RX assemblies can be ordered with standard (# 8) screw terminals or optional stud & nut terminals.

Panel Height

The 19" wide mounting panel can be ordered in different Rack Unit (RU) heights: 2RU, 3RU or 4RU. The 3RU assembly is available with switch positions centered, mounted high or mounted low. The 4RU is available with switches mounted low. Other panel specifications can be ordered using the letter "S" in the Panel Height field, indicating special requirements in the order notes.

Panel Color & Material

Panels are available in the following colors and materials: ANSI 61 gray - steel; ANSI 70 gray - steel; beige - steel; black - steel; and brushed finish aluminum. Other panel specifications can be ordered using the letter "S" in the Panel Color & Material field, indicating special requirements in the order notes.

FT-1 Switch Code Numbers (Positions A, B, and C)

Each FT-1 switch is defined by a unique three-digit "Code Number", which is required for each of the three FT-1 positions in the assembly (positions A, B and C).

To obtain the FT-1 Switch Style Number and the three-digit Code Number refer to the Switch Selection Guide on pages 9-14. To identify existing switch arrangements sorted by Style or Code Number, refer to Selection Guides on pages 15-20. If a particular arrangement is not listed, contact the Coral Springs factory. A blanking plate will be provided for unused switch positions (A, B, or C) by using Code Number "000".

Switch Replacement: To add an FT-1 Switch in an unused position, or to replace a switch in an FT-19R assembly, provide the required FT-1 Switch Style(s) with an "R" prefix for screw terminals (e.g., R129A501G01), or an "RS" prefix for optional stud type terminals (e.g., RS129A501G01). For FT-19RX assemblies provide the required FT-1 Switch Style with an "R" or "RS" prefix plus the X10 length suffix, (e.g., R129A501G01X10 or RS129A501G01X10).

Cover

For FT-19R assemblies, the Cover field should be left BLANK to order the unit with the standard full length clear cover. Optional covers are also available (full length black, individual clear, or individual black), as noted. The cover field is always required on FT-19RX part numbers, with Cover selections the same as FT-19R.

Customized Features

To order customized features use the special features Code "S" in the proper position of the ordering information. When ordering using code "S", the customer must supply sufficient information to identify the customized features, and contact the Coral Springs factory to determine availability and pricing for custom requirements.

COVER PART ORDERS

Individual covers can be retrofitted to existing FT-19R and FT-19RX assemblies out in the field. The only requirement is that the screw hardware that mounts the FT-1 Switches be replaced with cover mounting studs (provided with both Cover Styles 9683A78G01 & 9683A78G03).



Full-length Clear Cover
Switch handles may be open or closed
with the cover on and secured
(Style# 9676A28G01)



Full-length Black Cover
Switch handles must be closed before cover
can be mounted and secured
(Style# 9676A28G02)



Individual Black Cover
Switch handles must be closed before
cover can be mounted and secured
(Style # 9683A78G03)



Individual Clear Cover
Switch handles may be open or closed
with the cover on and secured
(Style # 9683A78G01)

FT-1 SWITCH ARRANGEMENT INFORMATION

| FT-1 SW ARRANGEMENT | P | T | C |
|---------------------|---|---|---|
| SCHEMATIC | | | |

| FT-1 SW ARRANGEMENT | C-C | C-C-C | C-C-C-C |
|---------------------|-----|-------|---------|
| SCHEMATIC | | | |

| FT-1 SW ARRANGEMENT | C-A | C-B | C-D | C-E |
|---------------------|-----|-----|-----|-----|
| SCHEMATIC | | | | |

| SCHEMATIC LEGEND | | | |
|--------------------|----------------|-------------------|----------------------|
| | | | |
| NON-SHORTING BLADE | SHORTING BLADE | CURRENT TEST JACK | SHORT CIRCUIT SPRING |

P = Potential or control circuit with black handle. Potential blades with color switch handles are as follows:

T = Red, G = Green, Y = Yellow, Z = Blue, W = White, O = Orange.

C = Current Circuit, non-shorting, with black handle.

C-C, C-C-C, C-C-C-C = Current Shorting (make-before-break), with black handles.

Current blades with color switch handles are as follows:

R= Red, 5 = Green, 6 = Yellow, 7 = Blue, 8 = White, 9 = Orange

Note: The above represents standard schematic arrangements for the FT-1 Switch. For special arrangements, or for more detailed information on the FT-1 Switch, see DB 41-077.

Switch Selection Guide

| Style | Code | Configuration | Style | Code | Configuration |
|--------------------|------------|----------------------------|--------------------|------------|----------------------------|
| 1 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R774B542G09 | 415 | P | | | |
| | | | | | |
| 2 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R291B954G15 | 343 | P . P | R9676A38G01 | 467 | Z Z |
| R129A534G01 | 032 | . . . P . . P . . . | R291B954G12 | 088 | C-C . |
| R291B954G13 | 089 | P P | R129A531G01 | 029 | C-C |
| R291B954G14 | 342 | T T | R498A026G01 | 076 | . C-C |
| R9688A46G01 | 603 | T O | R9689A74G01 | 738 | C-C |
| R291B954G16 | 090 | T T | | | |
| | | | | | |
| 3 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R716B871G11 | 156 | P P P | R716B871G12 | 157 | P . . . P . . . P |
| R716B871G09 | 155 | . . . P P P | R991A939G01 | 157 | T Y O |
| R9689A75G01 | 739 | . . . T T T | R9663A78G01 | 285 | C-C T |
| R9688A63G01 | 639 | . . . Z Z Z | R716B871G10 | 405 | . . . C C C |
| | | | | | |
| 4 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R9676A26G01 | 461 | . . . T P T P . . . | R291B956G26 | 346 | P P C P |
| R9676A27G01 | 462 | . . . T T T P . . . | R9688A67G01 | 643 | P P P S |
| R129A524G01 | 023 | . . P P P P | R9688A25G01 | 591 | O O C-C |
| R291B956G31 | 193 | . . T . T . T . T . | R129A507G01 | 007 | P C-C P |
| R1586C39G01 | 336 | . . T T T T | R291B956G18 | 092 | P P C-C . |
| R291B956G32 | 196 | . . T T T T | R291B956G30 | 095 | P P C-C |
| R9689A80G01 | 744 | . . Z Z Z Z | R9671A05G01 | 313 | T C-C P |
| R9688A64G01 | 640 | . P . P . P . P . . | R9676A36G01 | 465 | T T C-C . |
| R129A506G01 | 006 | P P P P | R9688A03G01 | 572 | W W C-C . |
| R291B956G24 | 344 | P . . P . . P . . P | R291B956G28 | 347 | . . . C C C . . . P |
| R291B956G25 | 345 | P . . P P P | R991A219G01 | 219 | . . . C-C-C . . . P |
| R9647A17G01 | 629 | P . . T . . Y . . Z | R291B956G13 | 091 | C-C C-C . |
| R129A538G01 | 035 | P P P P | R291B956G23 | 093 | . C C C C |
| R498A022G01 | 075 | P P P P | R9666A12G01 | 616 | . C-A C-A . |
| R9663A80G01 | 287 | P P P T | R763A109G01 | 410 | . C-C . . C-C . . . |
| R9672A73G01 | 427 | P P P P | R498A027G01 | 077 | . C-C C-C |
| R763A166G01 | 411 | T P P T | R291B956G27 | 195 | C C C C |
| R498A012G01 | 067 | T T T T | R9689A12G01 | 683 | C-A C-A |
| R862A584G01 | 086 | T . T T . T | R291B956G29 | 094 | C-C C-C |
| R991A932G01 | 932 | T T P P | R991A626G01 | 626 | C-C-C-B |
| R1586C39G02 | 203 | T T T T | R837A087G01 | 417 | C-C-C-C |
| R9688A79G01 | 653 | T T T T | | | |
| | | | | | |
| 5 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R129A505G01 | 005 | P P P P P | R291B957G17 | 350 | P P . . C-C . . . P |
| R291B957G15 | 096 | P P P P P | R291B957G16 | 349 | P P P C-C |
| R9676A37G01 | 466 | T T T T T | R291B957G09 | 348 | T P C-C T |
| R9688A55G01 | 610 | T Y Z W P | R498A002G01 | 061 | . C C . C . C . P . |
| R129A508G01 | 008 | P C-C P P | R9689A54G01 | 717 | C-C-C-C P |
| R129A533G01 | 031 | P P C-C P | R129A555G01 | 049 | C . C . C . C . C . |
| R9666A95G01 | 838 | P P C-C P | | | |

Switch Selection Guide

| Style | Code | Configuration | Style | Code | Configuration |
|-------------------|------|---------------------|-------------------|------|-----------------------|
| 6 POSITION | | | 6 POSITION | | |
| R188A416G01 | 053 | . . . P P P P P P . | R129A537G01 | 034 | P C-C C-C P |
| R837A889G01 | 421 | P P P P P P | R291B958G31 | 100 | P P C-C C-C |
| R629A568G01 | 377 | P P . . P P . . P P | R291B958G27 | 353 | P . . C C C C . . P |
| R129A504G01 | 004 | P P P P P P | R9672A72G01 | 426 | C-C C-C C-C |
| R129A550G01 | 046 | P P P P P P | R9688A43G01 | 600 | R-R 7-7 8-8 |
| R291B958G25 | 216 | P P P P P P | R9688A30G01 | 595 | R-R 8-8 7-7 |
| R1586C40G01 | 206 | P P T T T T | R9689A78G01 | 742 | 8-8 8-8 8-8 . |
| R9683A81G01 | 558 | T T T T P P | R188A454G01 | 054 | C C C C C C . |
| R291B958G33 | 102 | T T T T T T | R291B958G26 | 352 | . . . C-A C-A C-A . |
| R9676A65G01 | 473 | T T T T T T | R291B958G29 | 098 | . . . C-A C-A C-C . |
| R9688A40G01 | 597 | T Y O O Y T | R498A017G01 | 369 | . . . C-B C-B C-B . |
| R9688A04G01 | 573 | W W . . P P . . W W | R129A516G01 | 016 | . . . C-C C-C C-C . |
| R9669A31G01 | 916 | Y Y Y Y Y Y | R291B958G28 | 270 | . . . R-R R-R R-R . |
| R9666A39G01 | 782 | Z Z Z P P P | R129A523G01 | 022 | . . C C C C C C . . |
| R129A509G01 | 009 | P P P C-C P | R9666A83G01 | 821 | . 6-6 . 7-7 . 9-9 . |
| R9667A02G01 | 289 | P P P P R-R | R498A014G01 | 069 | . C-C . C-C . C-C . |
| R9672A03G01 | 327 | T T . . . P P . C-C | R9683A76G01 | 556 | . C-C C-C C-C . . . |
| R291B958G24 | 351 | P P C C C P | R188A304G01 | 052 | C . C . C . . C C C |
| R129A543G01 | 039 | P P C C-C P | R991A952G01 | 952 | C C C C C C |
| R9676A19G01 | 456 | P P P . . . C C C . | R9689A23G01 | 694 | C-C . . C-C . . C-C |
| R291B958G30 | 099 | . . . C-C C-C P P . | R9660A97G01 | 273 | C-C C-C C-C |
| 7 POSITION | | | 7 POSITION | | |
| R9688A99G01 | 672 | . . . T T T T T T T | R188A477G01 | 055 | P P C . C . C . P P |
| R129A526G01 | 025 | . P P P P P P P . . | R188A618G01 | 057 | P C C . C . C . P P |
| R129A503G01 | 003 | P . . P P P . P P P | R9688A83G01 | 657 | P C-C . P . C-C . P |
| R291B959G19 | 104 | P . . P P P P P . P | R129A511G01 | 011 | P P . . . C-C C-C P |
| R129A547G01 | 043 | P P P . . . P P P P | R498A008G01 | 063 | P P P . . C-C C-C . |
| R291B959G30 | 106 | P P P . . . P P P P | R291B959G26 | 355 | T C-C T C-C T . . . |
| R498A013G01 | 068 | P P P P . . P P P . | R291B959G32 | 108 | T T T . . . C C C C |
| R9663A79G01 | 286 | P P P P P P . . . T | R291B959G20 | 354 | T T T . . C-C C-C . |
| R291B959G28 | 357 | P P P P P P P . . . | R9676A79G01 | 481 | T T T . C-C . . C-C |
| R763A168G01 | 413 | T . . P P P . P P T | R9682A43G01 | 858 | C-C-C-C-C T T . . . |
| R291B959G33 | 109 | T T P . . . P P P P | R498A003G01 | 368 | . . . C-C C-C C-C T |
| R188A261G01 | 051 | P C-C P . . . P P P | R9663A77G01 | 284 | C-C C-C C-C . . . T |
| R129A510G01 | 010 | P P . . . C-C P P P | R129A540G01 | 332 | P C-C C-B C-B . . . |
| R291B959G27 | 356 | P P P P P . . . C-C | R991A936G01 | 936 | T . . . R-R 8-8 7-7 |
| R291B959G18 | 103 | P P P P P . . C-C . | R291B959G29 | 105 | . . C C-C C-C C-C . |
| R188A622G01 | 341 | T P . . . P P C-C T | R9676A24G01 | 459 | C-C C-C C-C C . . . |
| R9667A17G01 | 292 | T T . . . R-R T T T | | | |
| 8 POSITION | | | 8 POSITION | | |
| R291B960G37 | 187 | . P P P P P P P P . | R291B960G27 | 359 | T P . . C C-C C-C T |
| R9689A95G01 | 755 | O O O O O O O O . . | R9667A21G01 | 293 | . C C C C C C . P P |
| R129A549G01 | 045 | P . . P P P P P P P | R129A521G01 | 021 | . C-C C-C C-C . P P |
| R9689A22G01 | 693 | P P . P P . P P P P | R9683A22G01 | 515 | . C-C C-C C-C . T T |
| R719B591G09 | 406 | P P P . . P P P P P | R129A525G01 | 024 | . C-C C-C C-C P P . |
| R291B960G39 | 112 | P P P . P P . P P P | R291B960G38 | 361 | C-B C-B C-B . . P P |

Switch Selection Guide

| Style | Code | Configuration | Style | Code | Configuration |
|--------------------|------|----------------------------|-------------|------|----------------------------|
| 9 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R129A502G01 | 002 | P P P P . . P P P P | R991A938G01 | 938 | C-C C-C C-C . . T T |
| R129A536G01 | 331 | P P P P . . P P P T | R9668A69G01 | 305 | T T . . C-C C-C C-C |
| R129A546G01 | 042 | P P P P P . . P P P | R9688A65G01 | 641 | Z Z . . C-C C-C C-C |
| R719B591G14 | 160 | P P P P P . . P T T | R498A018G01 | 370 | C . . C-B C-B C-B P |
| R9683A80G01 | 557 | P P P P P P . . T T | R498A019G01 | 072 | P . C C-C C-C C-C . |
| R719B591G10 | 407 | P P P P P P P P . . | R498A004G01 | 062 | . C C C C C C C C . |
| R9689A90G01 | 753 | T T . . Z Z Z Z Z Z | R129A517G01 | 017 | . C-C C-C C-C C-C . |
| R9689A76G01 | 740 | T T T . T . O O G G | R498A029G01 | 375 | . C-C-C-B . C-C-C-B |
| R9683A10G01 | 507 | T T T T . . T T T T | R291B960G20 | 358 | . C-C-C-B C-C-C-B . |
| R719B591G12 | 158 | T T T T T . . T T T | R291B960G33 | 360 | . C-C-C-C C-C-C-C . |
| R991A937G01 | 937 | T T T T T T . . T T | R9660A84G01 | 266 | . R-R R-R R-R R-R . |
| R9683A71G01 | 552 | O O C-C . . Z Z Z Z | R9688A42G01 | 599 | 5-5 . . R-R 7-7 8-8 |
| R291B960G26 | 110 | P P P . . C-C P P P | R9689A27G01 | 697 | 5-5-5-A . . 5-5-5-A |
| R188A632G01 | 058 | P P P P P . . C-C P | R9666A78G01 | 817 | 6-6 R-R 5-5 . . 8-8 |
| R291B960G36 | 111 | P P P P P P . . C-C | R188A229G01 | 050 | C C C C . . C C C C |
| R763A167G01 | 412 | T . . P P P P C-C T | R9672A10G01 | 328 | C-C . . C-C C-C C-C |
| R9689A16G01 | 687 | W W W W W W . . C-C | R1586C41G01 | 278 | C-C C-C C-C . . C-C |
| R629A315G01 | 080 | . . P P P C-C C-C P | R9689A20G01 | 691 | C-C C-C C-C C-C . . |
| R719B591G13 | 159 | C-C C-C . . P P P P | R9683A93G01 | 563 | C-C-C-A . . C-C-C-A |
| R719B591G11 | 408 | C-C C-C . P P P P . | R837A099G01 | 419 | C-C-C-A C-C-C-B . . |
| R9669A32G01 | 917 | C-C-C-C W W W W . . | R498A025G01 | 373 | C-C-C-B . . C-C-C-B |
| R129A512G01 | 012 | P C-C P . . P C-C P | R9666A85G01 | 823 | C-C-C-C . . C-C-C-C |
| R498A016G01 | 071 | P P . C C C C . P P | R837A098G01 | 418 | C-C-C-C C-C-C-B . . |
| R129A530G01 | 028 | P P . C-C C-C . P P | R9688A70G01 | 644 | D D D C-C-C-C-S . . |
| R129A544G01 | 040 | P P P P . C-C C-C . | | | |
| R129A548G01 | 044 | P P . P P P P P P P | R9663A34G01 | 277 | . T C-C T C-C T C-C |
| R129A551G01 | 047 | P P P P . P P P P P | R861A551G01 | 423 | P C-C P C-C P C-C . |
| R9682A44G01 | 859 | P P P P . T T T T T | R129A515G01 | 015 | P P . C-C C-C C-C P |
| R9689A21G01 | 692 | P P P P P P P P P . | R498A024G01 | 372 | P P P . C-C C-C-C-B |
| R991A940G01 | 940 | T T T T T T T . O T | R291B961G27 | 364 | P P P C-C C-C . C C |
| R9688A45G01 | 602 | T T T T T T T T . T | R291B961G29 | 366 | P P P C-C C-C C-C . |
| R291B961G23 | 113 | P P P C C C P P P . | R9663A74G01 | 283 | T T . C-C C-C C-C T |
| R291B961G30 | 116 | P P P P P . C C C P | R9689A56G01 | 718 | T T O . R-R 8-8 7-7 |
| R129A552G01 | 333 | P P P P P . C C-C P | R9689A57G01 | 719 | T T T . R-R 8-8 7-7 |
| R629A483G01 | 081 | P P P P P . C-C C P | R291B961G26 | 115 | P P . C-B C-B C-B S |
| R188A633G01 | 059 | P P P P . C-C C-C P | R498A009G01 | 064 | . C-C C-C C-C C-C T |
| R291B961G22 | 362 | P P P P P . C-C C-C | R9668A70G01 | 306 | T . C-C C-C C-C C-C |
| R291B961G28 | 365 | P P P P P C C C C . | R498A023G01 | 371 | . C C-B C C-B C C-B |
| R129A545G01 | 041 | P P P P P C-C C-C . | R991A02AG01 | 02A | 5-5 C-D C-S . S C-C |
| R498A028G01 | 374 | P P P P . C C-C-C-B | R498A021G01 | 074 | C C-C C-C C-C C-C . |
| R9689A10G01 | 681 | P P P P . C-C-C-C-E | R9676A25G01 | 460 | C-C C-C C-C C . C-C |
| | | | | | |
| 10 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R9688A58G01 | 613 | G G G G G G G G G G | R9666A37G01 | 780 | O O P P P P R-6-7-C |
| R9689A62G01 | 730 | G G G G G G G G Y Y | R716B562G36 | 256 | P C-C C-C P P P P P |
| R9689A37G01 | 705 | G G G G G G T G T T | R9682A36G01 | 851 | P C-C C-C T T T T T |
| R9688A57G01 | 612 | G G G G G G T T T T | R129A513G01 | 013 | P C-C P P P P C-C P |
| R9666A73G01 | 813 | G G G G G O O O O O | R629A735G01 | 378 | P C-C P P P P C-C T |

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| Style | Code | Configuration | Style | Code | Configuration |
|--------------------|------|----------------------------|-------------|------|----------------------------|
| 10 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R9688A26G01 | 592 | G G G G G Y Y Y Y Y | R1586C42G22 | 211 | P C-C P P P T C-C P |
| R9683A88G01 | 560 | G G G G G Z Z Z Z Z | R1586C42G27 | 217 | P C-C P P T T C-C T |
| R9688A56G01 | 611 | G G G G P P T T T T | R836A867G01 | 416 | P C-C-C-C P P P P P |
| R991A623G01 | 623 | G G G G Y Y Y T T T | R991A506G01 | 506 | P P C P C P C P C P |
| R9683A69G01 | 550 | G G G G Y Y Y Y Y Y | R714B325G28 | 393 | P P C-A C-A P P P P |
| R9682A77G01 | 892 | G G Y Y Y Y Y Y Y Y | R716B562G15 | 142 | P P C-C P P C-C P P |
| R9682A57G01 | 874 | G O O O O O O O O O | R9689A81G01 | 745 | P P P C-C C-C P P P |
| R9689A65G01 | 732 | G T T G T T T T T T | R9652A30G01 | 871 | P P P C-C C-C T T T |
| R9682A42G01 | 857 | G T T T T T T T G T | R129A520G01 | 020 | P P P C-C P P C-C P |
| R9689A59G01 | 727 | G T T T T T T T T T | R991A335G01 | 335 | P P P C-C-C-C P P P P |
| R9689A99G01 | 757 | G Y T T T G T T T T | R9689A01G01 | 673 | P P P P C C C C P P |
| R9688A13G01 | 580 | O G O P P P P P P P | R714B325G29 | 394 | P P P P C-A C-A P P |
| R9672A97G01 | 440 | O O O O O O O O O O | R670B197G19 | 379 | P P P P C-C C-C P P |
| R9688A08G01 | 575 | O O O O O Y Y Y Y Y | R670B197G34 | 179 | P P P P C-C P P C-C |
| R9666A58G01 | 801 | O O O O O Z Z Z Z Z | R129A532G01 | 030 | P P P P P C-C C-C P |
| R9683A61G01 | 549 | O O T T T T P P P P | R714B325G16 | 132 | P P P P P P C-A C-A |
| R9683A18G01 | 511 | O W Z Z G W Y Y W W | R714B325G18 | 134 | P P P P P P C-C-C-A |
| R9669A37G01 | 922 | P P G Y T T T T G G | R670B197G28 | 126 | P P P P P P C-C-C-C |
| R9666A50G01 | 793 | P P P P G T T P P P | R9676A09G01 | 449 | P P T P P C-C C-C P |
| R9666A49G01 | 792 | P P P P G T T T P P | R1586C42G14 | 243 | P P T P T P C-C-C-C |
| R9666A62G01 | 805 | P P P P O O O O O O | R9676A71G01 | 475 | P T P R-C P P R-C P |
| R9688A90G01 | 664 | P P P P P P O O T T | R9689A73G01 | 737 | R-A R-A T T T T T T |
| R991A621G01 | 621 | P P P P P P P P P O | R9682A98G01 | 913 | R-R R-R O O O O O O |
| R129A501G01 | 001 | P P P P P P P P P P | R670B197G25 | 124 | R-R R-R T T T T T T |
| R774B430G19 | 170 | P P P P P P P P P T | R670B197G37 | 182 | T P C P C P C P C P |
| R991A930G01 | 930 | P P P P P P P P P W | R9660A91G01 | 268 | T P P C-C P P C-C P |
| R9676A88G01 | 488 | P P P P P P P P T P | R9676A05G01 | 445 | T P P C-C T P P C-C |
| R1586C42G23 | 212 | P P P P P P P P T T | R849A307G01 | 422 | T P P P P C-C C-C T |
| R9671A94G01 | 323 | P P P P P P P P Z Z | R991A231G01 | 231 | T R-E T R-E T T T T |
| R9672A77G01 | 430 | P P P P P P P T T P | R861A670G01 | 085 | T T T R-R T T R-R T |
| R1586C42G25 | 214 | P P P P P P P T T T | R991A235G01 | 235 | T T T T T T C-C C-C |
| R9682A83G01 | 898 | P P P P P P P W P P | R9689A42G01 | 709 | T Y Z T Y Z R-6-7-C |
| R1586C42G29 | 245 | P P P P P P T P P P | R9689A18G01 | 689 | Z Z O O O O C-C C-C |
| R9676A08G01 | 448 | P P P P P P T P P T | R670B197G20 | 120 | P P C C-C P C-C P P |
| R9672A75G01 | 429 | P P P P P P T P T P | R9682A48G01 | 863 | 7-7 7-7 7-7 P P O O |
| R1586C42G30 | 246 | P P P P P P T P T T | R9682A49G01 | 864 | 7-7 7-7 7-7 T T T T |
| R9672A98G01 | 441 | P P P P P P T T T P | R9682A50G01 | 865 | 7-7 7-7 7-7 Y Y Y Y |
| R9672A71G01 | 330 | P P P P P P T T T T | R9682A51G01 | 866 | 8-8 8-8 8-8 W W W W |
| R9688A59G01 | 614 | P P P P P P Z Z G T | R9669A43G01 | 928 | 9-9 9-9 9-9 P P P P |
| R9671A95G01 | 324 | P P P P P P Z Z Z Z | R9669A36G01 | 921 | 9-9 9-9 9-9 W W W W |
| R9676A97G01 | 496 | P P P P P T P T P T | R774B430G18 | 169 | C C C C C C P P P P |
| R1586C42G24 | 213 | P P P P P T T T T T | R1586C42G21 | 210 | C C-C C-C C T T T T |
| R670B197G21 | 380 | P P P P P T T T T T | R9666A91G01 | 829 | C-C 5-5 R-R P P P P |
| R991A931G01 | 931 | P P P P T G T G P P | R9683A15G01 | 508 | C-C C-C C-C G T T T |
| R9688A16G01 | 583 | P P P P T P P P P P | R9683A21G01 | 514 | C-C C-C C-C O O W W |
| R9688A96G01 | 670 | P P P P T P P P P T | R9683A20G01 | 513 | C-C C-C C-C O Y W W |
| R9667A06G01 | 291 | P P P P T P P T P P | R774B430G20 | 171 | C-C C-C C-C P P P P |
| R9682A71G01 | 886 | P P P P T P T P T P | R1586C42G36 | 252 | C-C C-C C-C P P P T |

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| Style | Code | Configuration | Style | Code | Configuration |
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| 10 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R1586C42G28 | 244 | P P P P T P T T T T | R9671A70G01 | 321 | C-C C-C C-C P P T T |
| R9688A95G01 | 669 | P P P P T T P P P P | R9683A73G01 | 554 | C-C C-C C-C T T P P |
| R9676A14G01 | 452 | P P P P T T T P P P | R774B430G24 | 183 | C-C C-C C-C T T T T |
| R9688A28G01 | 594 | P P P P T T T T P P | R991A238G01 | 238 | C-C C-C C-C T T W W |
| R9688A15G01 | 582 | P P P P T T T T T P | R991A239G01 | 239 | C-C C-C C-C Y Y Z Z |
| R670B197G26 | 185 | P P P P T T T T T T | R9666A60G01 | 803 | C-C C-C C-C Z Z Y Y |
| R9683A95G01 | 565 | P P P P W W T T T T | R716B562G16 | 399 | C-C P P C-C P P C-C |
| R9689A79G01 | 743 | P P P T P P P P P P | R1586C42G10 | 189 | C-C T P C-C-C-C P T |
| R9666A61G01 | 804 | P P P T T P P T T T | R774B430G09 | 161 | C-C-C-C C-C P P P P |
| R9672A74G01 | 428 | P P P T T T T T T P | R9676A98G01 | 497 | C-C-C-C C-C P T P T |
| R9689A32G01 | 701 | P P P T T T T T T T | R9683A98G01 | 568 | C-C-C-D P L C-C T T |
| R9676A90G01 | 490 | P P T P P P P P P P | R9669A42G01 | 927 | G G 9-9 9-9 9-9 P P |
| R1586C42G15 | 242 | P P T P T P P P P P | R9660A96G01 | 272 | L L L L C-E C-E C-E |
| R9682A45G01 | 860 | P P T T P P P P O O | R9676A99G01 | 498 | O G T W C-C C-C C-C |
| R9666A80G01 | 819 | P P T T P P P P P P | R9689A14G01 | 685 | O O O O C-C C-C C-C |
| R9689A97G01 | 756 | P P T T T P P T T T | R9666A20G01 | 720 | O Y Y O C-C C-C C-C |
| R991A224G01 | 224 | P P T T T T P P P P | R9683A05G01 | 503 | O Y Z 8-9 8-6 8-7 P |
| R9652A29G01 | 870 | P P T T T T P P T T | R9689A04G01 | 676 | P C-A P C-A P C-A P |
| R9664A98G01 | 776 | P P T T T T T P P P | R716B562G37 | 144 | P C-C C-C C-C P P P |
| R9664A97G01 | 775 | P P T T T T T T P P | R774B430G10 | 162 | P C-C C-C C-C P P P |
| R670B197G24 | 123 | P P T T T T T T T T | R129A528G01 | 026 | P C-C P C-C P C-C P |
| R9669A34G01 | 919 | P P W W P P P P Y Y | R9676A58G01 | 470 | P G T C-C 5-5 R-R W |
| R9682A76G01 | 891 | P P Y Y Y Y W W W W | R774B430G21 | 172 | P P C C C C C C P P |
| R991A03AG01 | 03A | P T G Y Z W O H V T | R714B325G19 | 385 | P P C C-C C-C C P P |
| R9688A20G01 | 587 | P T P P P P P P T T | R716B562G18 | 401 | P P C-C P P C-C C-C |
| R9688A19G01 | 586 | P T P P P P P P T T | R9664A93G01 | 771 | P P P 6-6 6-6 6-6 P |
| R9668A27G01 | 301 | P T P P T P P T P P | R991A946G01 | 946 | P P P 6-6 6-6 6-6 T |
| R9667A03G01 | 290 | P T P P T T P P T P | R9670A05G01 | 307 | P P P C C C C C C P |
| R9670A98G01 | 311 | P T P T P P T P T P | R9688A22G01 | 588 | P P P C-A C-A C-A P |
| R9671A69G01 | 320 | P T T P P P P P P P | R714B325G17 | 133 | P P P C-A P C-C-C-A |
| R9688A18G01 | 585 | P T T P P P P T T T | R129A514G01 | 014 | P P P C-C C-C C-C P |
| R9676A53G01 | 468 | P T T T P P T T P P | R670B197G32 | 128 | P P P C-C C-C C-C T |
| R9688A17G01 | 584 | P T T T T T T T T T | R9671A93G01 | 322 | P P P C-C C-C C-C Z |
| R9683A97G01 | 567 | P T W Z P P T W Z P | R1586C42G34 | 250 | P P P C-C C-R C-R T |
| R9688A84G01 | 658 | P W T G O Z T T T T | R670B197G27 | 125 | P P P C-C P C-C-C-C |
| R991A229G01 | 229 | P Y P P P P P P P P | R9688A01G01 | 570 | P P P G R-R R-R R-R |
| R991A225G01 | 225 | P Y P Y P P Z Z T T | R714B325G24 | 390 | P P P P C-A C-A C-A |
| R991A223G01 | 223 | P Y T T T T P P P P | R9666A46G01 | 789 | P P P P C-B C-B C-B |
| R991A228G01 | 228 | P Y T T T T T T P P | R1586C42G05 | 338 | P P P P C-C C-C C-C |
| R9688A12G01 | 579 | T G T Z Z Z Z Z Z Z | R670B197G18 | 119 | P P P P C-C C-C C-C |
| R9688A44G01 | 601 | T O Y T Z O O T Y T | R1586C42G37 | 253 | P P P P C-C-C C-C-C |
| R1586C42G31 | 247 | T P P P P P P P P P | R670B197G23 | 122 | P P P P P P C-C C-C |
| R670B197G36 | 181 | T P P P P P P P P T | R9660A85G01 | 267 | P P P P R-R R-R R-R |
| R9664A92G01 | 770 | T P P P P P P P P W | R1586C42G03 | 288 | P P P R-R R-R R-R P |
| R9682A59G01 | 875 | T P P P P P P P T T | R9688A38G01 | 596 | P P P R-R R-R R-R W |
| R9667A93G01 | 300 | T P P P P T P P P P | R1586C42G48 | 265 | P P T C-C C-C C-C T |
| R9682A72G01 | 887 | T P P P P T T T T P | R9676A17G01 | 454 | P R-R P R-R P R-R P |
| R9670A35G01 | 309 | T P P T P P P P P P | R9676A55G01 | 469 | P T Z C-7 8-7 7-C P |

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| Style | Code | Configuration | Style | Code | Configuration |
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| 10 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R9682A73G01 | 888 | T P P T P P P P T T | R9676A68G01 | 474 | P T Z C-8 R-8 7-8 W |
| R9670A34G01 | 308 | T P P T P P T P P P | R9689A53G01 | 716 | P T Z W 6-5 8-5 9-5 |
| R9670A97G01 | 310 | T P P T P P T P P T | R9666A55G01 | 798 | P Y Y P C-C C-C C-C |
| R1586C42G06 | 317 | T P T P P P P P P P | R9666A63G01 | 806 | P Y Z R-R 6-6 7-6 P |
| R9682A79G01 | 894 | T P T P P P P P T T | R9666A67G01 | 810 | P Y Z R-R 6-6 7-7 P |
| R1586C42G46 | 263 | T P T P P P P T P T | R714B325G20 | 386 | R-B R-B R-B T T T T |
| R9676A87G01 | 487 | T P T P T P P P P P | R9664A89G01 | 769 | R-R 7-7 C-C G Y T P |
| R9676A89G01 | 489 | T P T P T P T P P P | R9664A81G01 | 761 | R-R 7-7 C-C G Y W O |
| R9668A54G01 | 304 | T P T P T P T P T P | R9664A87G01 | 767 | R-R 7-7 C-C T G O G |
| R9676A34G01 | 463 | T P T T T P T P T P | R991A941G01 | 941 | R-R 7-7 C-C T T T P |
| R9689A49G01 | 713 | T T G G G G G G G G | R9664A86G01 | 766 | R-R 7-7 C-C T Z P O |
| R9689A50G01 | 714 | T T G G G G T T T T | R9666A88G01 | 826 | R-R 7-7 C-C W P O G |
| R9682A41G01 | 856 | T T G O T T T T T T | R9664A85G01 | 765 | R-R 7-7 C-C W P T G |
| R9676A72G01 | 476 | T T G T T T T T T T | R9666A84G01 | 822 | R-R 7-7 C-C Y W T G |
| R9688A10G01 | 577 | T T O O Y Y T T G G | R9689A33G01 | 702 | R-R R-R R-R P P P P |
| R1586C42G45 | 262 | T T P P P P P P P P | R9688A11G01 | 578 | R-R R-R R-R T T T T |
| R9667A78G01 | 297 | T T P P P P P P P T | R9689A28G01 | 698 | T 5-A T 5-A T 5-A T |
| R991A814G01 | 814 | T T P P P P P P P W | R9676A60G01 | 471 | T C-C C-C C-C P P P |
| R9682A70G01 | 885 | T T P P P P P P T P | R188A523G01 | 056 | T C-C T C-C T C-C T |
| R1586C42G41 | 258 | T T P P P P P P T T | R9689A84G01 | 748 | T C-C T C-C T C-C Y |
| R9660A92G01 | 269 | T T P P P P T T P P | R9666A72G01 | 812 | T O G W R-R 9-9 5-5 |
| R991A220G01 | 220 | T T P P P P T T T T | R1586C42G18 | 207 | T P C-C C-C C-C P P |
| R9671A68G01 | 319 | T T P P P T T P P P | R9682A53G01 | 868 | T P P C-C C-C C-C P |
| R9666A93G01 | 836 | T T P P T P P P P P | R9664A80G01 | 760 | T P P P C-C C-C C-C |
| R9667A86G01 | 299 | T T P P T T P P T T | R9689A89G01 | 752 | T P P P C-C C-R C-C |
| R991A221G01 | 221 | T T P P T T P T T P | R9666A94G01 | 837 | T P T P C-C C-C C-C |
| R9689A70G01 | 735 | T T T G G T P P Z Z | R9688A87G01 | 661 | T P Z W R-R C-C 7-7 |
| R9666A52G01 | 795 | T T T G Y Z Y O O Y | R9667A22G01 | 294 | T T C-C C-C C-C T T |
| R9666A45G01 | 788 | T T T O O O O O O O | R9689A07G01 | 678 | T T P C-C C-C C-C P |
| R9682A35G01 | 850 | T T T O O O O O O O | R9667A80G01 | 298 | T T P C-C C-C C-C T |
| R9676A84G01 | 485 | T T T P P P P P P P | R9672A90G01 | 437 | T T P P C-C C-C C-C |
| R9663A25G01 | 274 | T T T P P P P T T T | R9682A84G01 | 899 | T T T 5-5 5-5 5-5 T |
| R991A222G01 | 222 | T T T P P P T T P P | R9689A29G01 | 699 | T T T 5-A 5-A 5-A T |
| R991A929G01 | 929 | T T T P P P W P P T | R991A948G01 | 948 | T T T 6-6 6-6 6-6 T |
| R991A230G01 | 230 | T T T P T T P T T P | R9666A59G01 | 802 | T T T C-C C-C C-C G |
| R9682A38G01 | 853 | T T T P Y Y Y P O P | R9667A69G01 | 296 | T T T C-C C-C C-C P |
| R9682A62G01 | 878 | T T T T O O O O O O | R714B325G32 | 137 | T T T C-C C-C C-C T |
| R670B197G31 | 127 | T T T T P P P P P P | R9676A35G01 | 464 | T T T C-C C-C C-C W |
| R9682A60G01 | 876 | T T T T P P P P T T | R9647A23G01 | 635 | T T T G C-C C-C C-C |
| R9689A31G01 | 700 | T T T T P P T T T T | R9676A80G01 | 482 | T T T P C-C C-C C-C |
| R991A302G01 | 302 | T T T T P P W P P P | R774B430G13 | 165 | T T T R-R R-R R-R T |
| R9671A13G01 | 315 | T T T T T P P P P P | R498A010G01 | 065 | T T T T C-C C-C C-C |
| R9682A31G01 | 848 | T T T T T T G G O O | R9676A10G01 | 450 | T T T T C-C C-C C-C |
| R716B562G10 | 140 | T T T T T T P P P P | R9682A69G01 | 884 | T T T T R-R 8-8 7-7 |
| R9666A65G01 | 808 | T T T T T T P P T P | R9682A39G01 | 854 | T T T T R-R R-R R-R |
| R9689A69G01 | 734 | T T T T T T P P Z Z | R9688A41G01 | 598 | T W Z G R-R 7-7 8-8 |
| R9689A60G01 | 728 | T T T T T T T O T T | R9683A07G01 | 505 | T W Z G R-R 8-8 7-7 |
| R9666A76G01 | 815 | T T T T T T P P P P | R991A234G01 | 234 | T W Z P R-R 8-8 7-7 |

Switch Selection By Style

| Style | Code | Configuration | Style | Code | Configuration |
|--------------------|------|----------------------------|-------------|------|----------------------------|
| 10 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R9682A66G01 | 881 | T T T T T T T T O O | R9683A04G01 | 502 | T W Z R-R 8-8 7-7 P |
| R1586C42G44 | 261 | T T T T T T T T P P | R9682A86G01 | 901 | T Y P G R-R 6-6 C-C |
| R9666A43G01 | 786 | T T T T T T T T T P | R9689A41G01 | 708 | T Y Z 8-C P R-6-7-C |
| R129A539G01 | 036 | T T T T T T T T T T | R9666A44G01 | 787 | T Y Z R-R 6-6 7-7 P |
| R9682A30G01 | 847 | T T T T T T T T T W | R9689A06G01 | 677 | T Y Z W C-C C-C C-C |
| R9682A67G01 | 882 | T T T T T T T T W W | R9666A54G01 | 797 | W W O O C-C C-C C-C |
| R9682A32G01 | 849 | T T T T T T T W W W | R9666A21G01 | 721 | W W O Y C-C C-C C-C |
| R9682A90G01 | 905 | T T T T T T V V V V | R9652A25G01 | 832 | W W W 9-C 9-C 9-C W |
| R9683A03G01 | 501 | T T T T T T Y Y Y Y | R9682A93G01 | 908 | W W W W 8-8 8-8 8-8 |
| R9682A96G01 | 911 | T T T T T T Z Z O O | R991A624G01 | 624 | W W W W 9-9 9-9 9-9 |
| R9672A02G01 | 326 | T T T T T T Z Z Z Z | R9688A02G01 | 571 | W W W W C-C C-C C-C |
| R991A954G01 | 954 | T T T T T Z Z Z Z T | R9647A20G01 | 632 | W W Y O C-C C-C C-C |
| R9683A06G01 | 504 | T T T T T Z Z Z Z Z | R9652A28G01 | 835 | W Y Y O C-C C-C C-C |
| R9682A99G01 | 914 | T T T T W W W W W W | R9666A66G01 | 809 | Y T G 6-6 R-R 5-5 W |
| R9664A79G01 | 759 | T T T T Z T T T T T | R991A236G01 | 236 | Y Y Y C-C C-C C-C Y |
| R9689A61G01 | 729 | T T T T Z Z Z G G G | R9669A30G01 | 915 | Y Y Y R-R R-R R-R Y |
| R9688A93G01 | 667 | T T T T Z Z Z Z Z Z | R9666A38G01 | 781 | Z R-R Z R-R Z R-R P |
| R9676A74G01 | 478 | T T T Y Y P P P P P | R9689A19G01 | 690 | Z Z O O C-C C-C C-C |
| R9664A78G01 | 758 | T T T Z Z T T T T T | R991A945G01 | 945 | Z Z Z 6-6 6-6 6-6 Z |
| R9676A73G01 | 477 | T T Y Y P P P P P P | R9672A01G01 | 325 | Z Z Z C-C C-C C-C Z |
| R9689A08G01 | 679 | T T Y Y Z Z Z Z T P | R9682A82G01 | 897 | Z Z Z R-R R-R R-R G |
| R9664A88G01 | 768 | T T Z Z P P T G O G | R991A240G01 | 240 | Z Z Z R-R R-R R-R Z |
| R9682A29G01 | 846 | T T Z Z T T T T T T | R9689A85G01 | 749 | Z Z Z W R-R 6-6 5-5 |
| R9682A37G01 | 852 | T T Z Z T T T T T T | R9676A95G01 | 494 | Z Z Z Z C-C C-C C-C |
| R9652A26G01 | 833 | T T Z Z Z Z Z Z Z Z | R9683A96G01 | 566 | 9-C 6-C 7-C 8 P G P |
| R9666A47G01 | 790 | T W P P P P P P P P | R9682A97G01 | 912 | C Y Y Y C-C C-C C-C |
| R991A303G01 | 303 | T W P W T T W P W T | R1586C42G43 | 260 | C-C C-C C-C C P P P |
| R9682A52G01 | 867 | T W W W W P P P P P | R714B325G22 | 388 | C-C P C-C P C-C P C |
| R9666A36G01 | 779 | T Y Z P P P P P O O | R1485B70G10 | 176 | L L L U C-E C-E C-E |
| R9689A40G01 | 707 | T Y Z T Y Z T Y Z P | R9676A76G01 | 480 | P G T C-C 5-5 R-R 8 |
| R9689A36G01 | 704 | T Y Z W G G G G G G | R716B562G12 | 397 | P P C C-C C C-C C P |
| R9688A54G01 | 609 | T Y Z W G G G G G P | R129A535G01 | 033 | P P C C-C C-C C-C P |
| R9688A52G01 | 607 | T Y Z W P P P G G G | R9672A86G01 | 433 | P P C C-C C-C C-C T |
| R9688A53G01 | 608 | T Y Z W P P P P P P | R1586C42G17 | 205 | P P P C C C C C C C |
| R9666A13G01 | 617 | T Y Z W T Y Z W P P | R9671A26G01 | 318 | P P P C C-C C-C C-C |
| R9664A84G01 | 764 | T Z P O T G W P O G | R716B562G30 | 149 | P P P C-B C-B C-B S |
| R9647A22G01 | 634 | W W O O Y Y Z Z Y W | R1586C42G19 | 208 | P P P C-C C-C C-C C |
| R9669A33G01 | 918 | W W P P G G P P P P | R714B325G11 | 381 | P P P C-C C-C C-C C |
| R991A232G01 | 232 | W W P P P P P P P P | R714B325G25 | 135 | P P P C-C C-C C-C C |
| R9647A21G01 | 633 | W W T T T G P P P P | R774B430G16 | 167 | P P P S C-C C-C C-C |
| R9666A53G01 | 796 | W W T T Y Z Y O O P | R1485B70G09 | 175 | P P P U C U C U C U |
| R9649A37G01 | 637 | W W T T Y Z Y O O Y | R670B197G22 | 121 | P T C C-C C-C C-C T |
| R9641A64G01 | 619 | W W W T T T T T T T | R9666A89G01 | 827 | R-R 7-7 C-C C Y W O |
| R9646A77G01 | 620 | W W W W W W W W T | R9666A56G01 | 799 | T O Y S C-8 7-8 5-8 |
| R9676A93G01 | 492 | W W W W W W W W W | R670B197G35 | 180 | T T C C-C C-C C-C T |
| R9689A63G01 | 731 | W W W W W Y Y Y Y | R9688A86G01 | 660 | T T C-C C-C C-C C T |
| R9688A66G01 | 642 | W W W W Y Y Y Y G G | R9689A45G01 | 711 | T T T C-C 5-5 R-R 8 |
| R9683A17G01 | 510 | W Y Z Z Y Y G T T T | R9663A59G01 | 281 | T T T C-C C-C C-C C |

Switch Selection By Style

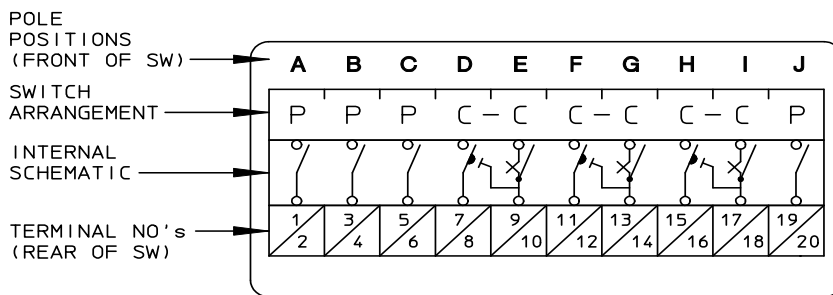
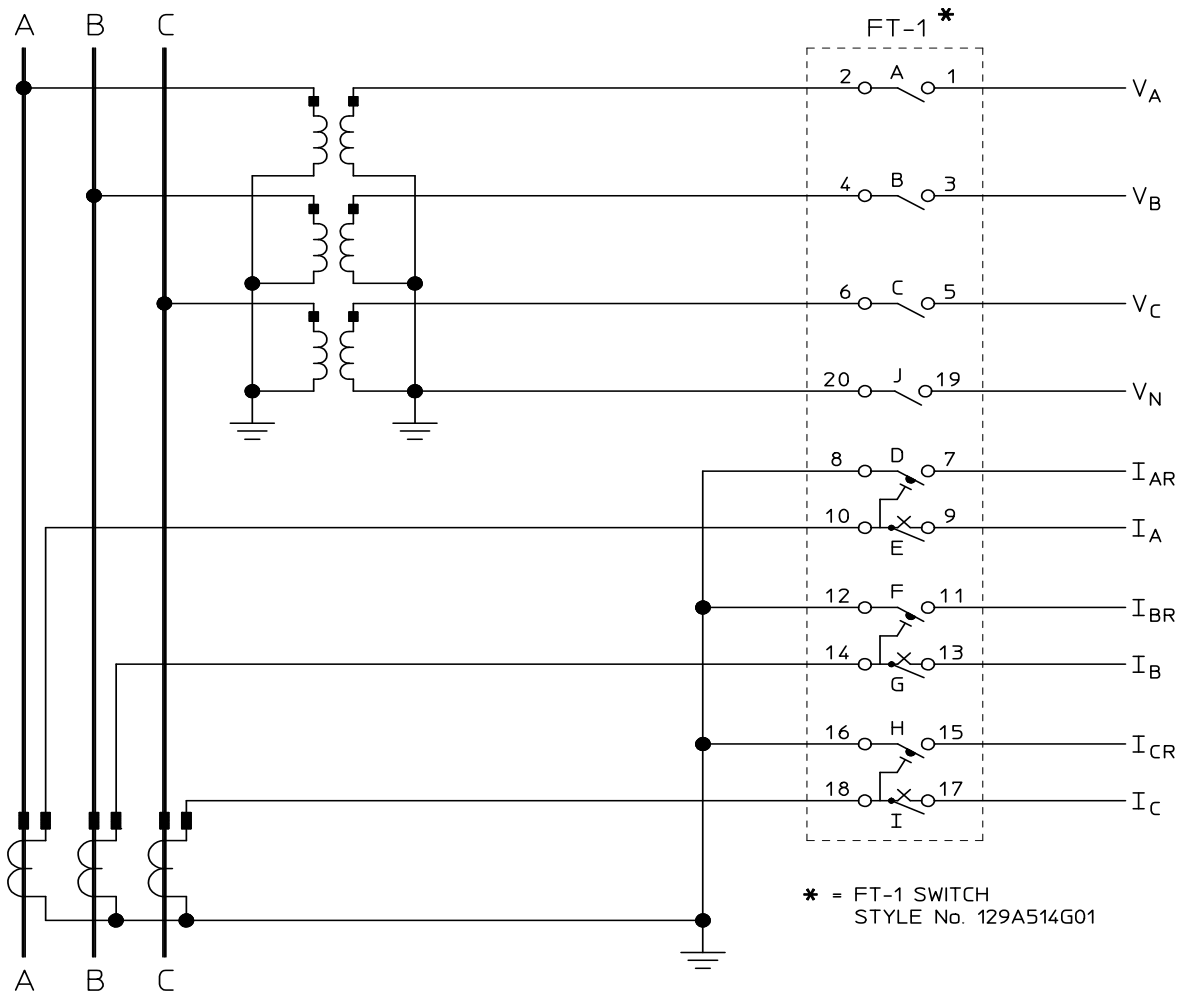
| Style | Code | Configuration | Style | Code | Configuration |
|--------------------|------|----------------------------|-------------|------|----------------------------|
| 10 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R9683A19G01 | 512 | W Y Z Z Y Y O W W W | R291B961G25 | 114 | T T T C-C C-C C-C N |
| R9688A14G01 | 581 | Y G Y G Y Y Y W W W | R1485B70G11 | 177 | T T T C-C C-C C-C U |
| R9666A79G01 | 818 | Y T G W Z W T T T P | R9688A50G01 | 605 | T T T R-R R-R R-R R |
| R9666A87G01 | 825 | Y Y T T T T T T T T | R991A951G01 | 951 | T T T S C-C C-C C-C |
| R9688A82G01 | 656 | Y Y W W W W W W W W | R9683A87G01 | 559 | 5-5 5-5 5-5 5-5 G G |
| R9688A73G01 | 647 | Y Y W W W W W Y Y Y | R9666A64G01 | 807 | 6-6 R-R 5-5 8-8 Z W |
| R9688A72G01 | 646 | Y Y W W Y Y W Y Y Y | R9682A47G01 | 862 | 7-7 7-7 7-7 7-7 W W |
| R9666A86G01 | 824 | Y Y Y Y T T T T T T | R9683A89G01 | 561 | 7-7 7-7 7-7 7-7 Z Z |
| R9669A41G01 | 926 | Y Y Y Y W W W W T T | R991A237G01 | 237 | 8-C 8-C 8-C 8-C P P |
| R9688A71G01 | 645 | Y Y Y Y W W W W W W | R9688A85G01 | 659 | 8-C R-C 5-C 9-C T T |
| R9689A47G01 | 712 | Y Y Y Y W W Y Y Y Y | R9669A35G01 | 920 | 9-9 9-9 9-9 9-9 G G |
| R9688A09G01 | 576 | Y Y Y Y Y T T T T T | R9647A18G01 | 630 | 9-C 6-C 7-C C-C T T |
| R9688A81G01 | 655 | Y Y Y Y Y W W W W W | R9689A02G01 | 674 | C C C C C C C C P P |
| R9669A38G01 | 923 | Y Y Y Y Y Y P P P P | R714B325G21 | 387 | C-A P P C C-C C C-C |
| R9682A46G01 | 861 | Y Y Y Y Y Y T T P P | R991A942G01 | 942 | C-B C-B C-B C-B P P |
| R9688A78G01 | 652 | Y Y Y Y Y Y W W W W | R837A407G01 | 083 | C-C C-C C-C C-C P P |
| R9688A80G01 | 654 | Y Y Y Y Y Y W W Y Y | R9672A95G01 | 439 | C-C C-C C-C C-C P T |
| R9689A13G01 | 684 | Y Y Y Y Y Y Y T T T | R9676A11G01 | 451 | C-C C-C C-C C-C T P |
| R9688A24G01 | 590 | Y Y Y Y Y Y Y Y G G | R774B430G22 | 173 | C-C C-C C-C C-C T T |
| R9666A90G01 | 828 | Y Y Y Y Y Y Y Y T T | R9683A16G01 | 509 | C-C C-C C-C C-C W W |
| R9688A77G01 | 651 | Y Y Y Y Y Y Y Y W W | R837A664G01 | 420 | C-C C-C P C C C C P |
| R9683A01G01 | 499 | Y Y Y Y Y Y Y Y Y Y | R716B562G24 | 404 | C-C P P C C-C C C-C |
| R9689A09G01 | 680 | Y Y Z Z Z Z Z Z T P | R9688A94G01 | 668 | C-C T C-C C-C C-C P |
| R9666A77G01 | 816 | Z Z G G G G G G G G | R9667A68G01 | 295 | C-C T C-C C-C C-C T |
| R9683A75G01 | 555 | Z Z G G G G G G W W | R498A031G01 | 376 | C-C-C-B C-C-C-B P P |
| R9683A70G01 | 551 | Z Z G G G G W W W Y | R716B562G38 | 153 | C-C-C-C C C C-C P P |
| R9688A23G01 | 589 | Z Z G G W W W W W W | R714B325G15 | 131 | C-C-C-C C-C C-C P P |
| R9652A27G01 | 834 | Z Z G G W W Y Y Y Y | R837A101G01 | 082 | C-C-C-C C-C-C-B P P |
| R9688A74G01 | 648 | Z Z G G W Y Y Y W W | R1586C42G42 | 259 | C-C-C-C C-C-C-B T T |
| R9682A65G01 | 880 | Z Z P P P P P P P P | R774B430G11 | 163 | C-C-C-C C-C-C-C P P |
| R991A943G01 | 943 | Z Z P P W W P P P P | R1586C42G09 | 188 | C-C-C-C C-C-C-C P T |
| R991A953G01 | 953 | Z Z T T T T T T T T | R9671A22G01 | 316 | C-C-C-C C-C-C-C T P |
| R9688A76G01 | 650 | Z Z W W W W W W W W | R9642A36G01 | 618 | C-C-C-C C-C-C-C T T |
| R9683A02G01 | 500 | Z Z W W W W W W Y Y | R9672A94G01 | 438 | C-C-C-C P C-C-C-C P |
| R9666A92G01 | 831 | Z Z Y Y Y Y W W W W | R9676A01G01 | 443 | C-C-C-C T C-C-C-C T |
| R9663A41G01 | 279 | Z Z Y Y Y Y Y Y G W | R498A032G01 | 079 | C-C-C-D C-C-C-B P P |
| R9682A78G01 | 893 | Z Z Y Y Y Y Y Y W W | R714B325G13 | 383 | C-C-C-D C-C-C-D P P |
| R9688A89G01 | 663 | Z Z Z O O O O O O O | R774B430G12 | 164 | C-C-C-D C-C-C-D P P |
| R9682A89G01 | 904 | Z Z Z P P P P P P P | R9672A23G01 | 329 | C-C-C-E C-C-C-E T T |
| R991A227G01 | 227 | Z Z Z T T T T T T Z | R9672A88G01 | 435 | C-C-C-E T C-C-C-E T |
| R9688A88G01 | 662 | Z Z Z Z O O O O O O | R716B562G39 | 154 | C-C-E C C-C C-C P P |
| R9682A64G01 | 879 | Z Z Z Z P P P P P P | R9666A23G01 | 722 | L C-E C-E C-E C-E L |
| R9669A39G01 | 924 | Z Z Z Z T T T T T T | R9682A61G01 | 877 | O O C-C C-C C-C C-C |
| R9689A15G01 | 686 | Z Z Z Z Z O O O O O | R9682A24G01 | 841 | P 8-8 8-8 8-8 8-8 P |
| R9688A92G01 | 666 | Z Z Z Z Z Z O O O O | R129A519G01 | 019 | P C C C C C C C C P |
| R9682A19G01 | 830 | Z Z Z Z Z Z T T T T | R716B562G27 | 146 | P C C C C P C C C C |
| R9689A91G01 | 754 | Z Z Z Z Z Z Z Z O O | R129A518G01 | 018 | P C-C C-C C-C C-C P |
| R9676A81G01 | 483 | Z Z Z Z Z Z Z Z P P | R1586C42G08 | 340 | P C-C C-C C-C C-C T |

Switch Selection By Style

| Style | Code | Configuration | Style | Code | Configuration |
|--------------------|------|----------------------------|-------------|------|----------------------------|
| 10 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R9676A91G01 | 491 | Z Z Z Z Z Z Z Z W W | R837A616G01 | 186 | P C-C C-C C-C C-C T |
| R9676A94G01 | 493 | Z Z Z Z Z Z Z Z Z Z | R9682A87G01 | 902 | P P 5-5 R-R 6-6 C-C |
| R498A011G01 | 066 | C P P P P P P P P P | R991A625G01 | 625 | P P 9-9 9-9 9-9 9-9 |
| R1586C42G39 | 255 | C T T T T T T T T T | R716B562G25 | 184 | P P C-C C-C C-C C-C |
| R9647A19G01 | 631 | O Y C W G P P T T T | R9676A96G01 | 495 | P P C-C-C-C C-C-C-C |
| R714B325G31 | 395 | C-A P P P P P P P P | R991A233G01 | 233 | P R-R 8-8 7-7 C-C P |
| R9682A80G01 | 895 | C-A T T T T T T T T | R9683A99G01 | 569 | P R-R R-R R-R R-R P |
| R837A665G01 | 202 | C-C P P P P P P P P | R9676A83G01 | 484 | P S P R-R R-R R-R C |
| R9647A12G01 | 628 | C-C P P P P T T T T | R9666A35G01 | 778 | R-6-7-C R-6-7-C O O |
| R9647A11G01 | 627 | C-C P P T T T T T T | R714B325G12 | 382 | R-B R-B R-B R-B T T |
| R9676A86G01 | 486 | C-C T T P P P P P P | R716B562G11 | 396 | R-C R-C R-C R-C T T |
| R9688A07G01 | 574 | C-C T T P P T T P P | R9664A83G01 | 763 | R-R 7-7 C-C 9-9 T G |
| R9647A98G01 | 636 | C-C T T T T P P P P | R9664A82G01 | 762 | R-R 7-7 C-C 9-9 T P |
| R9683A72G01 | 553 | C-C T T T T T T P P | R9688A91G01 | 665 | R-R R-R R-R R-R P P |
| R1586C42G20 | 209 | C-C T T T T T T T T | R9666A48G01 | 791 | R-R R-R R-R R-R T T |
| R991A944G01 | 944 | C-C Z Z Z Z Z Z Z Z | R9666A26G01 | 724 | T 5-5 6-6 7-7 5-5 T |
| R991A934G01 | 934 | O Y Z W G C-C T V H | R9671A04G01 | 312 | T C C C C C C C C P |
| R1586C42G32 | 248 | P C C P P P T P P P | R9671A12G01 | 314 | T C C C C C C C C T |
| R670B197G33 | 178 | P P C-C P P P P P P | R876A157G01 | 425 | T C C C-C C-C C-C T |
| R716B562G21 | 403 | P P P C-C P P P P P | R670B197G38 | 200 | T C-C C-C C-C C-C P |
| R9689A72G01 | 736 | P P P P P C-C P P P | R849A513G01 | 084 | T C-C C-C C-C C-C T |
| R9666A28G01 | 726 | P P P P P P 8-8 Z Z | R9676A75G01 | 479 | T C-C C-C C-C C-C Y |
| R9663A60G01 | 282 | P P P P P P C-C P P | R9666A24G01 | 723 | T C-C-C-C C-C C-C P |
| R9666A82G01 | 820 | P P P P P P P C-B P | R9689A34G01 | 703 | T C-C-C-C C-C-C-C P |
| R129A542G01 | 038 | P P P P P P P C-C P | R716B562G28 | 147 | T R-R R-R R-R R-R T |
| R1586C42G38 | 254 | P P P P P P P C-C T | R9682A68G01 | 883 | T T 5-5 R-R 8-8 7-7 |
| R714B325G30 | 136 | P P P P P P P P C-A | R9669A40G01 | 925 | T T 9-9 9-9 9-9 9-9 |
| R716B562G26 | 145 | P P P P P P P P C-C | R1586C42G16 | 204 | T T C-C C-C C-C C-C |
| R9682A25G01 | 842 | P P P P P P P P C-E | R774B430G28 | 201 | T T C-C C-C C-C C-C |
| R9676A15G01 | 453 | P P P P P P P R-R P | R991A935G01 | 935 | T T R-R 8-8 7-7 5-5 |
| R991A241G01 | 241 | P P P P P T T T C-C | R9666A51G01 | 794 | W W C-C C-C C-C C-C |
| R716B562G35 | 152 | P P P P T T P C-C P | R9689A77G01 | 741 | Z C-C C-C C-C C-C Z |
| R9682A74G01 | 889 | P P P R-R P P P P P | R129A541G01 | 037 | C C C C C C C C C P |
| R9666A42G01 | 785 | P P P T T T T C-C P | R188A286G01 | 280 | C C C C C C C C C T |
| R991A226G01 | 226 | P P P T T T T T C-C | R670B197G16 | 117 | C C C C-C C-C C-C P |
| R9689A25G01 | 695 | P P R-R T P P P P P | R1586C42G40 | 257 | C-C C-C C-C C C-C P |
| R9688A98G01 | 671 | P P T T T T T T C-C | R1586C42G35 | 251 | C-C C-C C-C C C-C T |
| R9672A83G01 | 432 | T P P P P P P C-C P | R714B325G23 | 389 | P C-C C C-C C C-C C |
| R1586C42G26 | 215 | T P P P P P P C-C T | R498A030G01 | 078 | P C-C-C-B C C-C-C-B |
| R991A949G01 | 949 | T P T P T T T 6-6 P | R9688A48G01 | 604 | T 8-8 C-C 5-5 R-R 8 |
| R9676A04G01 | 444 | T T C-C P G Y W Z O | R9689A26G01 | 696 | 5-A 5-A 5-A 5-A 5-A |
| R9689A87G01 | 750 | T T R-A T T T T T T | R9664A94G01 | 772 | 6-6 6-6 6-6 6-6 6-6 |
| R991A933G01 | 933 | T T R-R T T T T T T | R9682A94G01 | 909 | 8-8 8-8 8-8 8-8 8-8 |
| R9666A69G01 | 811 | T T T C-C P P P P P | R129A529G01 | 027 | C C C C C C C C C C |
| R991A950G01 | 950 | T T T P T T T 6-6 P | R774B430G17 | 168 | C C C C C C C C C C |
| R9689A88G01 | 751 | T T T S T S O O G G | R9676A18G01 | 455 | C C C C-C C-C C-C C |
| R1586C42G33 | 249 | T T T T C-C T T T T | R9688A75G01 | 649 | C C C C-C-C-C-C C C |
| R9682A85G01 | 900 | T T T T T T 5-5 P P | R716B562G14 | 141 | C C-B C C-B C C-B C |

Switch Selection By Code

| Style | Code | Configuration | Style | Code | Configuration |
|--------------------|------|----------------------------|-------------|------|----------------------------|
| 10 POSITION | | A B C D E F G H I J | | | A B C D E F G H I J |
| R9688A62G01 | 615 | T T T T T T C-A T T | R716B562G13 | 398 | C C-C C-C C-C C-C C |
| R9666A34G01 | 777 | T T T T T T R-R T T | R9689A03G01 | 675 | C-A C-A C-A C-A C-A |
| R1586C42G47 | 264 | T T T T T T T C-C T | R9689A11G01 | 682 | C-C 5-5 R-R 8-8 8-8 |
| R9666A96G01 | 839 | T T T T T T T R-A T | R714B325G26 | 391 | C-C C-C C C C-C C-C |
| R670B197G17 | 118 | T T T T T T T R-R T | R9682A92G01 | 907 | C-C C-C C-C 8-8 8-8 |
| R9672A89G01 | 436 | T T T T T T T T C-C | R9682A91G01 | 906 | C-C C-C C-C C-C 8-8 |
| R991A947G01 | 947 | Z Z T T P P P 6-6 P | R774B430G15 | 166 | C-C C-C C-C C-C C C |
| R129A553G01 | 048 | P P P P P P C C-C P | R498A020G01 | 073 | C-C C-C C-C C-C C-C |
| R9666A27G01 | 725 | 6-6 7-7 G Y Z W O W | R9676A23G01 | 458 | C-C C-C C-C C-C R R |
| R716B562G20 | 402 | C C P P P P P P C C | R9676A20G01 | 457 | C-C C-C C-C C-C-C-C |
| R714B325G27 | 392 | C-A C-A P P P P P P | R9683A92G01 | 562 | C-C-C-A C-A C-A C-A |
| R991A622G01 | 622 | C-C C-C P P P P P O | R774B430G14 | 414 | C-C-C-A C-C C-C C-A |
| R498A015G01 | 070 | C-C C-C P P P P P P | R1586C42G02 | 337 | C-C-C-A C-C-C-A C-C |
| R1586C42G13 | 192 | C-C C-C P P P P P T | R498A001G01 | 060 | C-C-C-B C-C C-C-C-B |
| R9672A80G01 | 431 | C-C C-C P P P P T T | R714B325G14 | 384 | C-C-C-C C-C C-C C-C |
| R991A218G01 | 218 | C-C C-C P P P T T T | R9666A40G01 | 783 | C-C-C-C C-C C-C-C-C |
| R9676A06G01 | 446 | C-C C-C P P T T T T | R774B430G23 | 174 | C-C-C-C C-C-C-C C-C |
| R991A334G01 | 334 | C-C C-C T T P P P P | R9666A41G01 | 784 | C-C-C-C C-C-C-C R-R |
| R9663A31G01 | 275 | C-C C-C T T T T T T | R9676A07G01 | 447 | C-D C-D C-D C-D C-D |
| R716B562G17 | 400 | C-C P P C-C P P P P | R714B325G09 | 129 | C-E C-E C-E C-E C-E |
| R716B562G19 | 143 | C-C P P P P C-C P P | R991A01AG01 | 01A | C-E R-R-R-E C-B C-A |
| R877A077G01 | 087 | C-C P P P P P P C-C | R291B962G31 | 367 | J J J J J J J J J J |
| R9666A97G01 | 840 | C-C T T T C-C T T T | R9682A54G01 | 869 | R R R R R R R R R R |
| R9683A94G01 | 564 | C-C-C-A T T T T T T | R9689A43G01 | 710 | R-6-7-C R-6-7-C 8-C |
| R1586C42G11 | 190 | C-C-C-C P P P P P T | R9689A17G01 | 688 | R-A R-A R-A R-A R-A |
| R1586C42G12 | 191 | C-C-C-C P P P P T T | R714B325G10 | 130 | R-B R-B R-B R-B R-B |
| R9672A99G01 | 442 | C-C-C-C T T T T T T | R716B562G09 | 139 | R-C R-C R-C R-C R-C |
| R9689A38G01 | 706 | C-C-C-C W W W T T T | R9688A51G01 | 606 | R-R 6-6 7-7 8-8 C-C |
| R9672A87G01 | 434 | C-C-C-E T T T T T T | R9663A33G01 | 276 | R-R R-R R-R R-R R-R |



FT-1 STYLE No. 129A514G01
(SWITCH LAYOUT)

Sub 2
9666A11

Figure 1: FT-1 Connection Diagram.

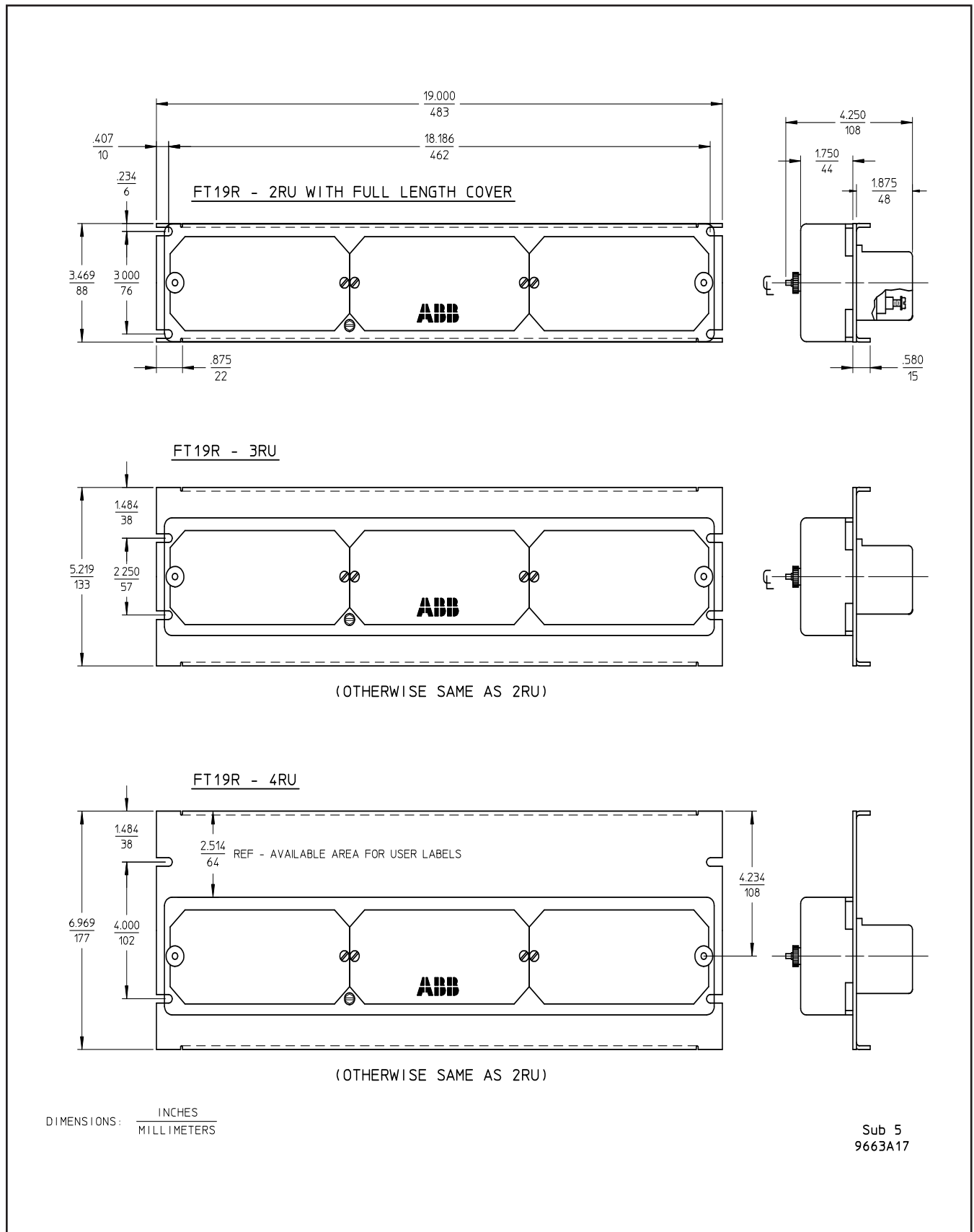


Figure 2: FT-19R Dimensions and Layout

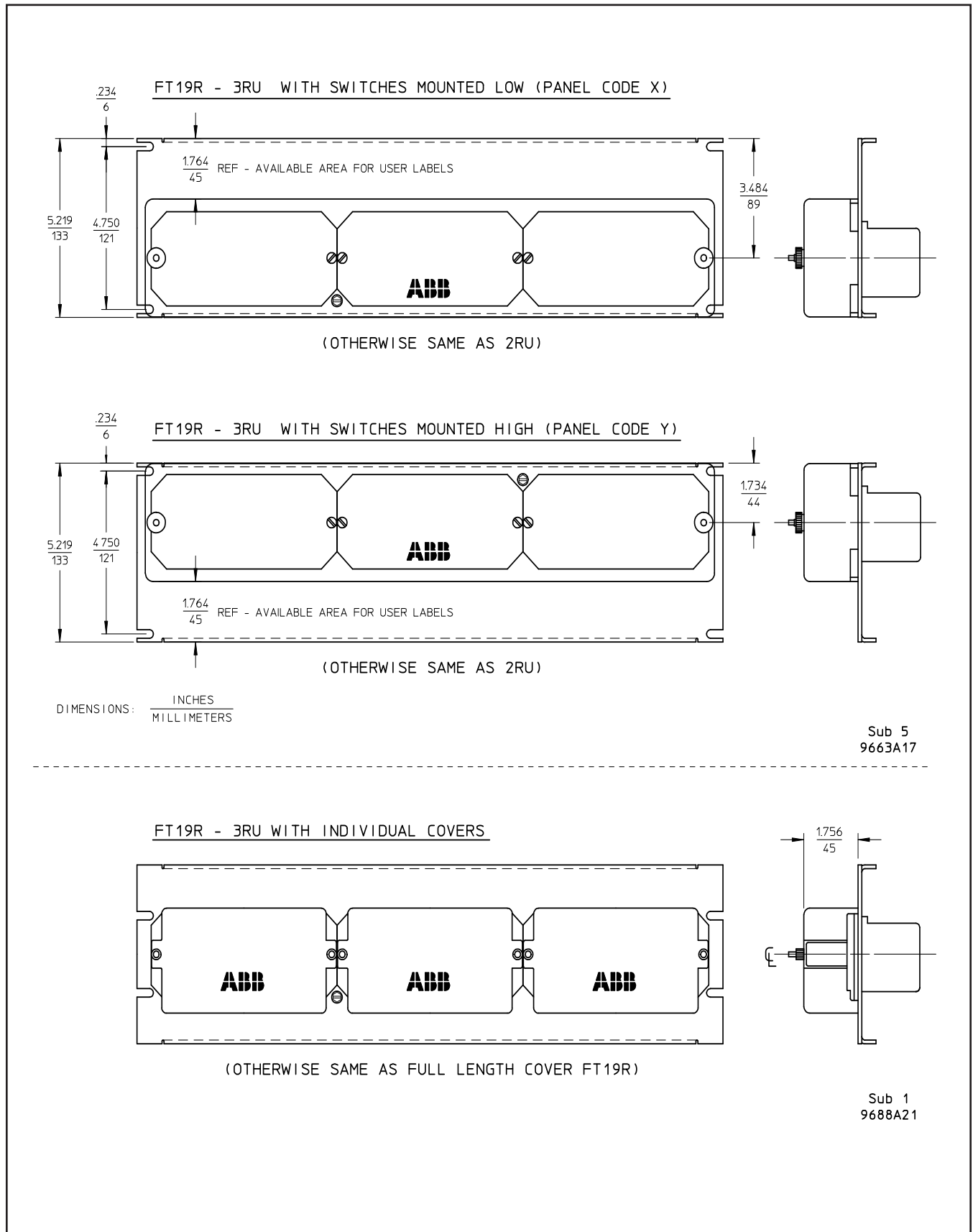


Figure 3: FT-19R Dimensions and Layout

WEIGHT

| FT Product | Net Lbs. (kg) | Shipping Lbs. (kg) |
|--|--------------------------|-------------------------------|
| FT-19R all 3 Switches Installed on Steel Plate | 7.0 (3.18) | 9.0 (4.08) |
| FT-1 Switch | 1.75 (.79) | 3.25 (1.47) |
| FT-1 Extended | 2.75 (1.25) | 3.75 (1.7) |
| In Service Series Test Plug | 1.5 (.68) | 3.0 (1.4) |
| Separate Source Test Plug | 1.5 (.68) | 3.0 (1.4) |
| Individual Current Circuit Test Plug | .1 (.045) | 1.0 (.45) |

REFERENCE

For more information on FT-1 Switches, Test Plugs, and related accessories, see Descriptive bulletin 41-077, Flexitest Switch Type FT-1 and FT-1X.



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