

Type MOST Oil Switch

GENERAL

Kyle® Type Most padmounted switchgear (Figure 1) offers a simple, economical approach to underground switching. In addition to the inherent advantages of pad-mounted apparatus for underground switching, the MOST modular design provides a wide selection of switching combinations to meet specific requirements without the added cost of custom construction.

Deadfront construction provides a high level of safety for both the operator and the general public, and oil insulation offers the further advantage of low maintenance.

Oil insulation also permits construction of a compact, low-profile unit that is considerably less obtrusive than a comparable air-insulated design.

MOST switchgear can be used for both utility and commercial/industrial applications, and can be easily fused to meet distribution system requirements. Ratings of MOST padmounted switchgear are shown in Table 1.



921114KM

Figure 1. Kyle® Type MOST padmounted switchgear offers a simple approach to switching 5, 15, 25 and 35 kV underground systems; and provides a wide choice of switching combinations to meet specific system requirements without the added cost of custom construction.

TABLE 1
Ratings of MOST Padmounted Switchgear

Nominal Voltage	15kV	25kV	35kV
Maximum Design Voltage	15.5	27	38
BIL, kV	95	125	150
1-Minute Withstand, Switch and Terminators, kV	34	40	50
Continuous Current, amps (max.)	600	300	200*
Load Switching, amps	600	300	200*
Momentary Current 10 Cycles, amps (asym.)	16,000	16,000	16,000
2 Sec., amps (sym.)	10,000	10,000	10,000
3 Shot Make and Latch amps (asym.)	16,000	16,000	16,000

* An alternate two-position OPEN-CLOSE switch is available for 15 kV, 25 kV and 35 kV designs that have a 300A continuous and load switching rating. This alternate switch meets ANSI C37.71 and C37.72 requirements.

ORDERING INFORMATION

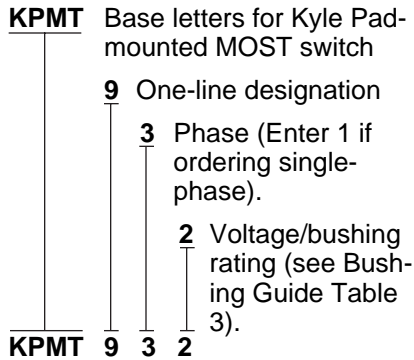
To order a Type MOST Pad-mounted Switch:

1. Refer to Tables 2 or 4. Select the one-line diagram that meets your requirements for switching capability and bushing configuration. Then select operating voltage (kV). This establishes the base catalog number as seen below.
2. From Table 5, select fusing requirements.
3. From Table 6, select optional accessories required.

Ordering example: The MOST-9, three-phase, 15 kV switch with optional ground rod would be ordered as follows:

Quantity:
1-KPMT932
1-KPA1037-X

Constructing a Catalog Number



KPMT932 is the base catalog number for a model 9 three-phase, 15 kV MOST Switch with 600-amp source bushings and 200-amp tap bushings.

TABLE 2
MOST Selection and Ordering Guide*

Model	One-Line Diagram	Voltage (kV)	H/W/D** (in.)	Typical Catalog Number***
3		15	42/32/76	KPMT331
		25	44/40/87	KPMT334
		35	44/40/75	KPMT339
4		15	42/32/64	KPMT433
		25	44/40/75	KPMT436
		35	44/40/75	KPMT439
4A		15	42/62/64	KPMT4A33
		25	44/70/75	KPMT4A36
		35	44/70/75	KPMT4A39
5		15	42/32/64	KPMT533
		25	44/40/75	KPMT536
		35	44/40/75	KPMT539
6		15	42/62/70	KPMT632
		25	44/70/81	KPMT635
		35	44/70/75	KPMT639
6B		15	42/62/70	KPMT6B32
		25	44/70/81	KPMT6B35
		35	44/70/75	KPMT6B39
7		15	42/62/70	KPMT732
		25	44/70/81	KPMT735
		35	44/70/75	KPMT739
7B		15	42/62/70	KPMT7B32
		25	44/70/81	KPMT7B35
		35	44/70/75	KPMT7B39
8		15	42/62/70	KPMT832
		25	44/70/81	KPMT835
		35	44/70/75	KPMT839
8B		15	42/62/70	KPMT8B32
		25	44/70/81	KPMT8B35
		35	44/70/75	KPMT8B39
9		15	42/62/70	KPMT932
		25	44/70/81	KPMT935
		35	44/70/75	KPMT939
9A		15	42/62/64	KPMT9A33
		25	44/70/75	KPMT9A36
		35	44/70/75	KPMT9A39
9B		15	42/62/70	KPMT9B32
		25	44/70/81	KPMT9B35
		35	44/70/75	KPMT9B39

* Contact Cooper Power Systems Sales Representative for information on configurations not listed.

** Approximate overall dimensions for typical units. For footprint, reduce the "D" dimension by two inches.

*** Maximum continuous and switching current ratings are 600A for 15 kV, 300A for 25 kV, and 200A for 35 kV. For 35 kV units, catalog number and dimensions shown are for units with 200A source and tap bushings. 35 kV units will be supplied with three-phase rated 200A one-piece bushings as standard; however, 600A, 35 kV source bushings are available if required.

TABLE 2
MOST Selection and Ordering Guide* (continued)

Model	One-Line Diagram	Voltage (kV)	H/W/D** (in.)	Typical Catalog Number***
10		15 25 35	42/62/76 44/70/87 44/70/75	KPMT1031 KPMT1034 KPMT1039
11		15 25 35	42/62/76 44/70/87 44/70/75	KPMT1132 KPMT1135 KPMT1139
11B		15 25 35	42/62/76 44/70/87 44/70/75	KPMT11B32 KPMT11B35 KPMT11B39
12		15 25 35	44/62/91 44/70/104 44/70/98	KPMT1232 KPMT1235 KPMT1239
12B		15 25 35	44/62/91 44/70/104 44/70/98	KPMT12B32 KPMT12B35 KPMT12B39
13		15 25 35	42/62/76 44/70/87 44/70/75	KPMT1331 KPMT1334 KPMT1339
13A		15 25 35	42/62/76 44/70/87 44/70/75	KPMT13A31 KPMT13A34 KPMT13A39
14		15 25 35	42/62/70 44/70/81 44/70/75	KPMT1432 KPMT1435 KPMT1439
15		15 25 35	44/62/85 44/70/98 44/70/98	KPMT1533 KPMT1536 KPMT1539
15B		15 25 35	44/62/91 44/70/104 44/70/98	KPMT15B32 KPMT15B35 KPMT15B39

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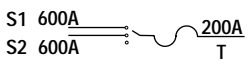

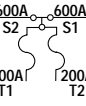
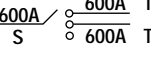
** Approximate overall dimensions for typical units. For footprint, reduce the "D" dimension by two inches.

*** Maximum continuous and switching current ratings are 600A for 15 kV, 300A for 25 kV, and 200A for 35 kV. For 35 kV units, catalog number and dimensions shown are for units with 200A source and tap bushings. 35 kV units will be supplied with three-phase rated 200A one-piece bushings as standard; however, 600A, 35 kV source bushings are available if required.

TABLE 3
Bushing Guide

KV	Amperage Rating (Source/Tap)		
	600A/ 200A	600A/ 600A	200A/ 200A
15	2	1	3
25	5	4	6
35	8	7	9

TABLE 4
Selector Guide for MOST Switches with Four-Position Switch*

Model	One-Line Diagram	Voltage (kV)	H/W/D** (in.)	Typical Catalog Number***
6S		15 25 35	42/62/70 44/70/81 44/70/75	KPMT6S32 KPMT6S35 KPMT6S39
6B-T		15 25 35	42/62/70 44/70/81 44/70/75	KPMT6BT32 KPMT6BT35 KPMT6BT39
9B-T		15 25 35	42/62/70 44/70/81 44/70/75	KPMT9BT32 KPMT9BT35 KPMT9BT39
S		15 25 35	42/62/76 44/70/87 44/70/75	KPMTS31 KPMTS34 KPMTS39

* Contact Cooper Power Systems Sales Representative for information on configurations not listed.

** Approximate overall dimensions for typical units. For footprint, reduce the "D" dimension by two inches.

*** Maximum continuous and switching current ratings for four-position switches is 600A for 15 kV, 300A for 25 kV and 200A for 35 kV. For 35 kV units, catalog number and dimensions shown are for units with 200A source and tap bushings. 35 kV units will be supplied with three-phase rated 200A one-piece bushings as standard; however, 600A, 35 kV source bushings are available if required.

TABLE 5
Fusing Options

Type	kV	Description	For MOST Rating-kV	Catalog Number
ELSG	8.3	E rated, full range current limiting rating of ___-Amps <i>Specify 4, 8, 12, 15, 20 or 25 amps</i> <i>Specify 30 or 40 amps</i> <i>Specify 50, 60, 65, 80, 100 or 125 amps</i>	15	KPA102083__ KPA102083__ KPA102083__
ELSG	15.5	E rated, full range current limiting rating of ___-Amps <i>Specify 4, 8, 12, 15, 20 or 25 amps</i> <i>Specify 30 or 40 amps</i> <i>Specify 50, 60, 65, 80, or 100 amps</i>	25	KPA102155__ KPA102155__ KPA102155__
ELSG	23.0	E rated, full range current limiting rating of ___-Amps <i>Specify 4, 8, 12, 15, 20 or 25 amps</i> <i>Specify 30 or 40 amps</i> <i>Specify 50, 65, 80 or 100 amps</i>	25 & 35	KPA102230__ KPA102230__ KPA102230__
ELSG	23.0	Equivalent to A.B. Chance Fuse SL54 – <i>Specify 50 amp</i> SL90 – <i>Specify 90 amp</i>	25 & 35	KPA102230S__ KPA102230S__

TABLE 6
Accessories

Description	Catalog Number
1/2" Copper ground rod (in lieu of ANSI standard stainless steel ground points)	KPA1037-X**
1" drain valve with 3/8" sampler (in lieu of standard 1" drain plug and 3/8" sampler)*	KPA1051*
Fault indicator provisions, Qty. 6, located in the source or tap compartment sill	
Source compartment	*
Tap compartment	*
304L Stainless steel construction (in lieu of standard mild steel construction)	*
Spare fuse storage rack	*
T-Handle	KPA128

* Consult Cooper Power Systems Sales Representative.

** "X" will be replaced with proper assembly number.

TABLE 7
Optional Bushings

Current Rating	Nominal kV Class	Description*	Catalog Number
200-amp Loadbreak	15	3 Bushing inserts	KPA1033
200-amp Loadbreak	15	3 Single-piece bushings	KPA1041
200-amp Loadbreak	25	3 Bushing inserts	KPA1034
200-amp Loadbreak	25	3 Single-piece bushings	KPA1042
600-amp Deadbreak	15	3 Push-Op bushings **	KPA1151
600-amp Deadbreak	25	3 Push-Op bushings **	KPA1152
600-amp Deadbreak	35	3 Push-Op bushings **	KPA1153
600-amp Deadbreak	15 or 25 †	3 U-OP systems with aluminum VBJ's & U-Connectors ††	KPA1052-1-1
600-Amp Deadbreak	15 or 25 †	U-OP provisions †††	KPA1053-1

* Cooper Power Systems bushings and bushing wells provided. Consult Cooper Power Systems Sales Representative for alternatives.

** Push-Op bushings include Push-Op 600A deadbreak bushing, front plate latch assembly and sidemounted loadbreak switch handles.

† 35kV is not available.

†† Includes installation of mounting provisions for U-OP systems, KPA1053-1, on the tank. U-OP is added for each bushing of a three-phase position. When ordering, customer to specify which three-phase positions will be equipped with U-OP.

††† Installation of mounting provisions for U-OP systems for all 600A bushings on the tank.

FEATURES AND DETAILED DESCRIPTION

ONE-LINE DIAGRAM

Easy-to read one-line diagrams are provided on both source and tap sides.

ENERGY-LIMITING FUSES

RTE Components energy-limiting fuses are housed in an under-oil wet-well assembly. A fuse drip tray is provided.

CONVENIENT OPERATION

RTE Components bushings, installed at a convenient height, give dependable, sure operation. Phase designations are clearly labeled. At least one standoff bracket per bushing is provided.

1/2–13 ground nut is mounted beneath each bushing as standard.

TAP SIDE



Kyle's MOST padmounted switchgear (Figure 2) provides a simple, economical approach to switching requirements for 5, 15, 25 and 35 kV underground systems. The modular design of MOST switchgear allows the switching system to be tailored to specific requirements without the high cost of custom construction.

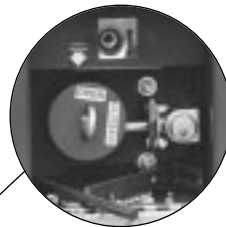
The deadfront construction of MOST padmounted switchgear offers a high safety factor for utility personnel and the general public. Inside, all terminators are covered with insulating rubber. All internal parts are completely sealed in insulating oil to reduce maintenance and eliminate the problems of moisture, dirt and wildlife commonly associated with air-insulated switchgear.

Kyle's oil-insulated, sealed design offers a significant added advantage: an unobtrusive, low-profile appearance that compares favorably with larger, more bulky air-insulated equipment.

MOST padmounted switchgear is versatile in application. It is suited for utility and commercial/industrial requirements, and a wide selection of fuses make it easily adaptable to standardized distribution systems. MOST switchgear fits the majority of standard pads, and is compatible with commonly used tools and techniques.

MOST switchgear and components are a product of Kyle and RTE, and components have been proven by years of continuous field experience.

SOURCE SIDE



LOADBREAK SWITCH

Side-mounted loadbreak switch (shown with optional key locking accessory) has positive position indicator. Switch is operable by hotstick or optional hand-operated "T" handle. Frontplate-mounted switches are available as an option.

DATA PLATE

Indicates voltage and amperage ratings, catalog number, serial number and unit weight.

921115KM
921116KM
921117KM

Figure 2. Deadfront construction of the MOST padmounted switch includes swing-up doors with door stays. The oil-insulated, sealed design reduces maintenance and provides a low-profile appearance.

FUSE ASSEMBLIES

A complete line of fuses (see Table 5 and Figure 3) is available for MOST padmounted switchgear. The Type ELSG full range current-limiting fuse provides consistent clearing of low currents as well as reliable high speed interruption of high magnitude short circuit currents.

In addition to providing excellent protective characteristics over a wide range of applications, the "E" rated ELSG fuses have time-current characteristics that coordinate easily with other upstream and downstream protective devices.

For detailed ELSG fuse information, refer to Catalog Section 240-82. For detailed SX-Limiter fuse information, refer to Catalog Section 240-81.



Figure 3.
Type ELSG Full Range Current-limiting Fuse.

MOST SWITCHING SYSTEM

The Kyle three-phase, gang-operated loadmake/loadbreak oil sectionalizing switches used in MOST switchgear have a history of more than twenty-five years of successful application.

Positive position indicators assure safe operation. A spring-loaded actuator provides loadbreak operation and positive latching through all positions, independent of the speed at which the operating handle is turned. The side-mounted switch can be operated by hotstick or an optional manually operated handle. Front-mounted switches are optional.

Four switch designs (Figure 4) are available: two-position open/close, four-position selector blade, four-position "V" blade, and four-position "T" blade. Kyle's "V" and "T" blade designs are unique in that they perform the function of three separate open/close switches. All switch operations are indicated on a single switch handle. Combining multiple functions on one switch not only permits quicker and easier operation, but in addition makes possible a more compact unit.

Switch Types	Applications
<p>OPEN/CLOSE</p>	
<p>Selector Blade</p>	
<p>"V" Blade</p>	
<p>"T" Blade</p>	

Switch center is pivot point.
Black segments of blade rotate.
White segments are stationary.

Figure 4.
Various switching configurations available for MOST switchgear.

CABINET CONSTRUCTION

The deadfront, non-ventilated, tamper-resistant construction of low-profile MOST switchgear makes it suitable for operation in areas subject to excessive moisture, occasional flooding and blowing snow. Additional sealing is provided by the Buna-N rubber gasket in the bolted cover.

Swing-up doors are provided with door stays and fitted with stainless steel hinges. On units wider than 46 inches, split doors are provided to allow easy operation by one person. Both source and tap doors can be fully open at the same time. Each door has a floating lock pocket with padlock provisions and pentahead stainless steel door bolt.

Tank construction is of 10-gauge steel, and doors are made of 12-gauge steel. Recessed lifting provisions are located for a balanced lift.

Standard features include an oil level indicator, automatic pressure-relief valve, operating schematics on the doors, oil fill and drain provisions, and a standoff bracket for each bushing.

FINISH

MOST switchgear is finished in a green color which conforms to Munsell 7GY 3.29/1.5 Green.

The coating conforms to the following specifications: ANSI standard C57.12.28, ASTM B1117 1000-hour 5% salt spray corrosion test, ASTM D2247 1000-hour humidity test, ASTM G53 500-hour ultraviolet accelerated weathering test, and ASTM D2794 impact test. Certified test data is available on request.

BUSHINGS

600-amp bushings furnished on MOST padmounted switchgear are RTE deadbreak aluminum type, and conform to ANSI/IEEE standard 386.

200-amp interfaces are either RTE 200-amp bushing wells or RTE 200-amp one-piece 35 kV bushings and conform to ANSI/IEEE standard 386.

Bushings are mounted in-line and located a minimum of 24 inches above the pad.

PRODUCTION TESTING

Before shipping, MOST switchgear is fully assembled, filled with oil and subjected to the following factory tests:

1. Continuity testing to insure correct internal connections.
2. Hi-pot testing to determine dielectric strength.
3. Pressure testing to insure that tank is completely sealed.
4. Resistance testing to insure positive electrical connections.

