

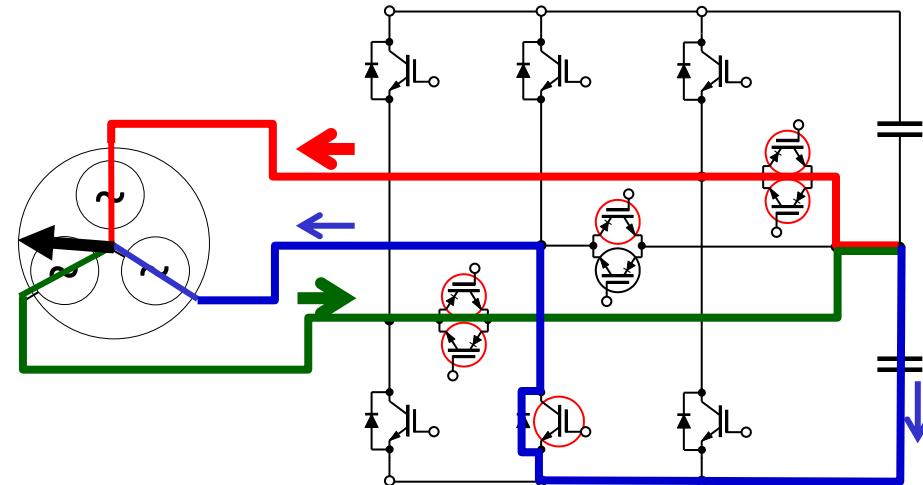
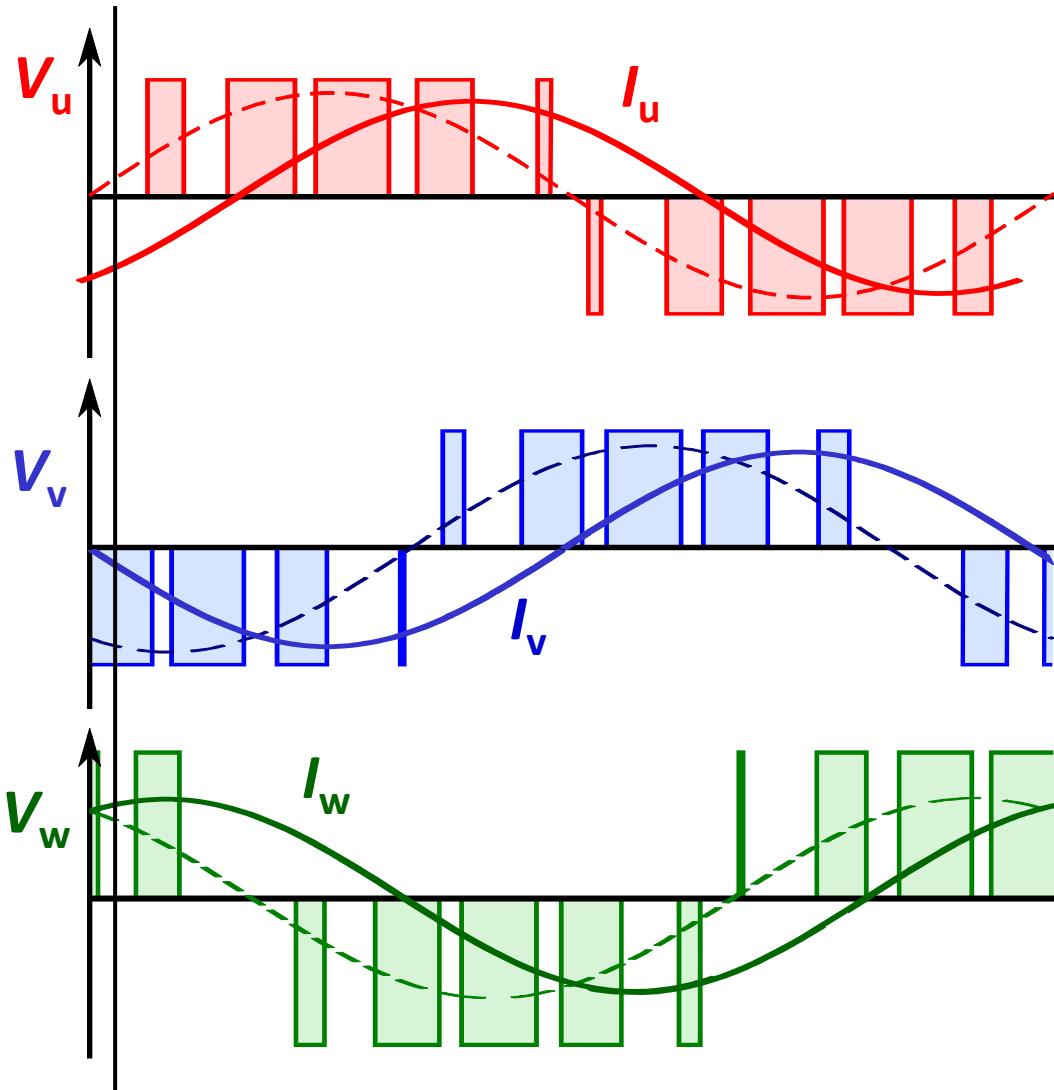
# AT-NPC Module Switching Pattern (Three Phase Converter)

Fuji Electric Co., Ltd.

Device Application Technology Dept.  
Semiconductor Sales Div.  
Sales Group

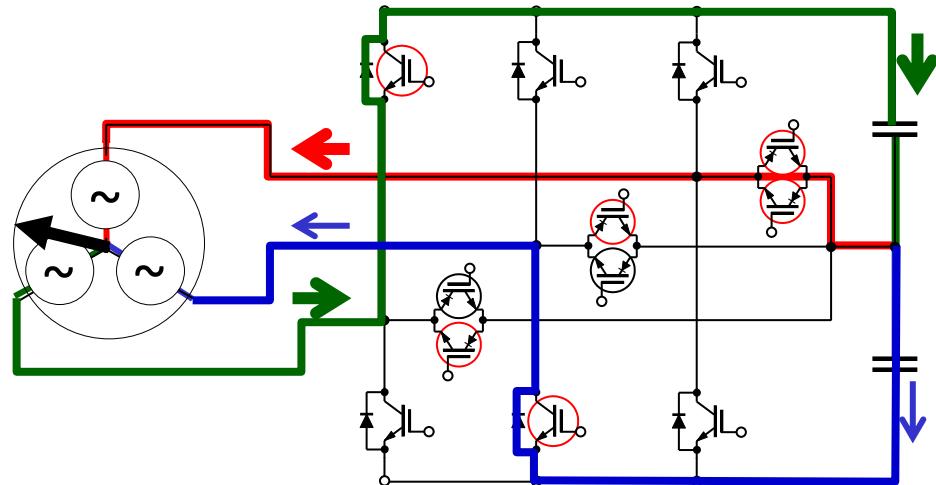
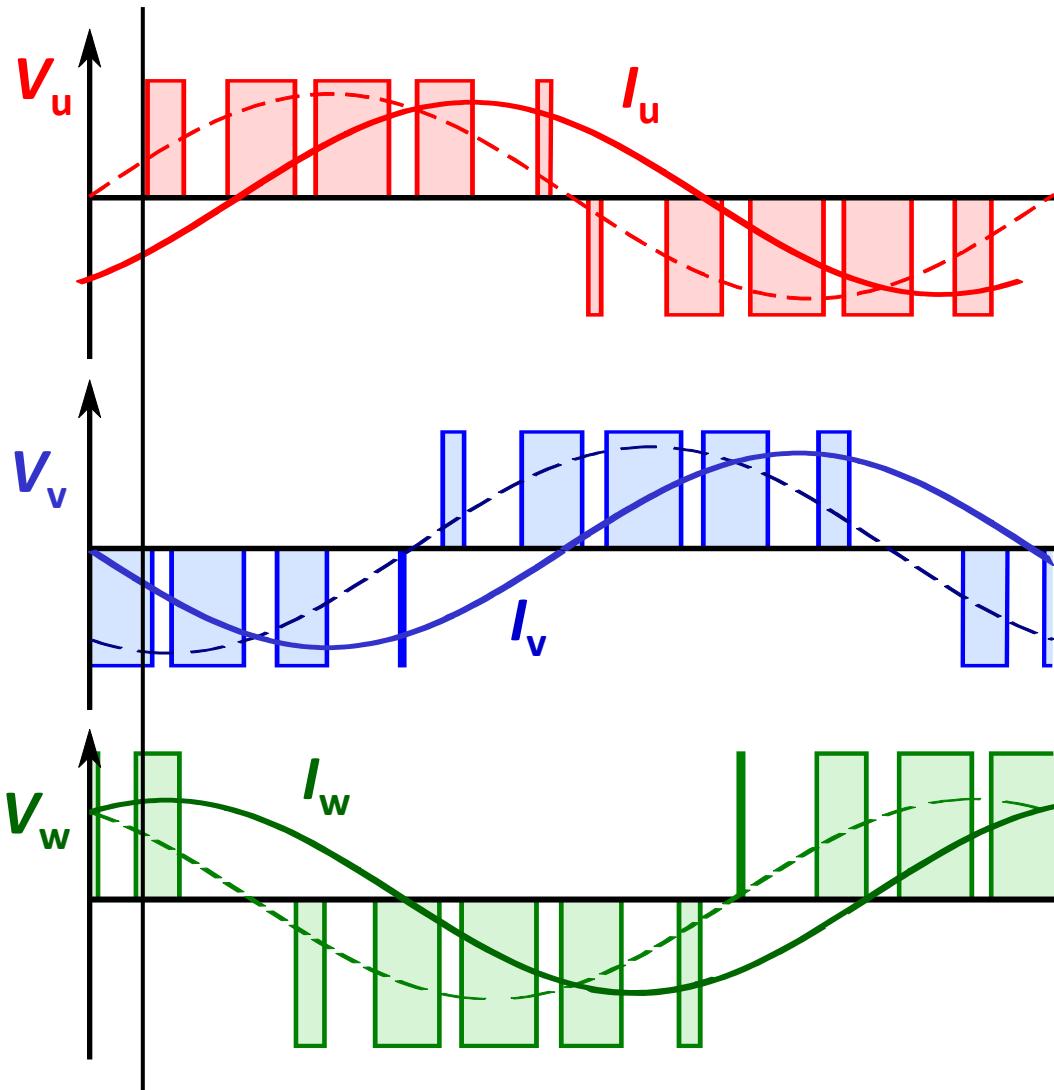
Nov, 2014

# 3-Phase Circuit with Inductive Load



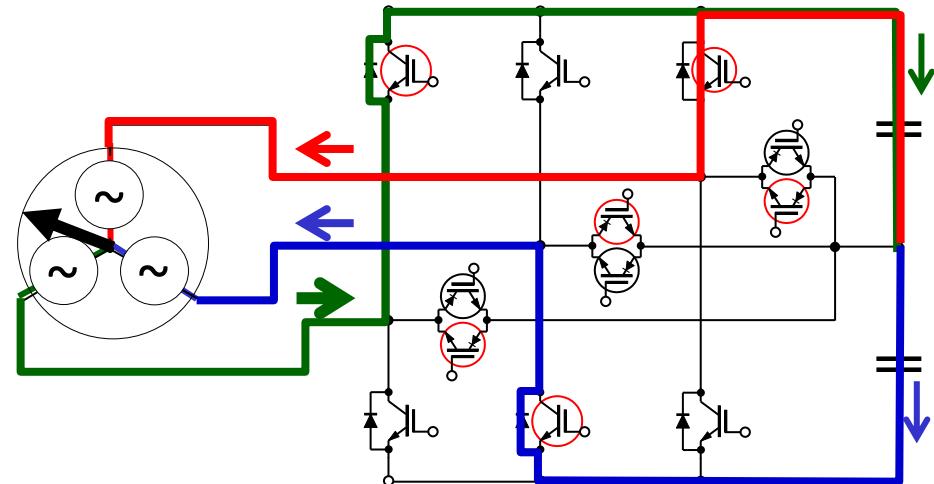
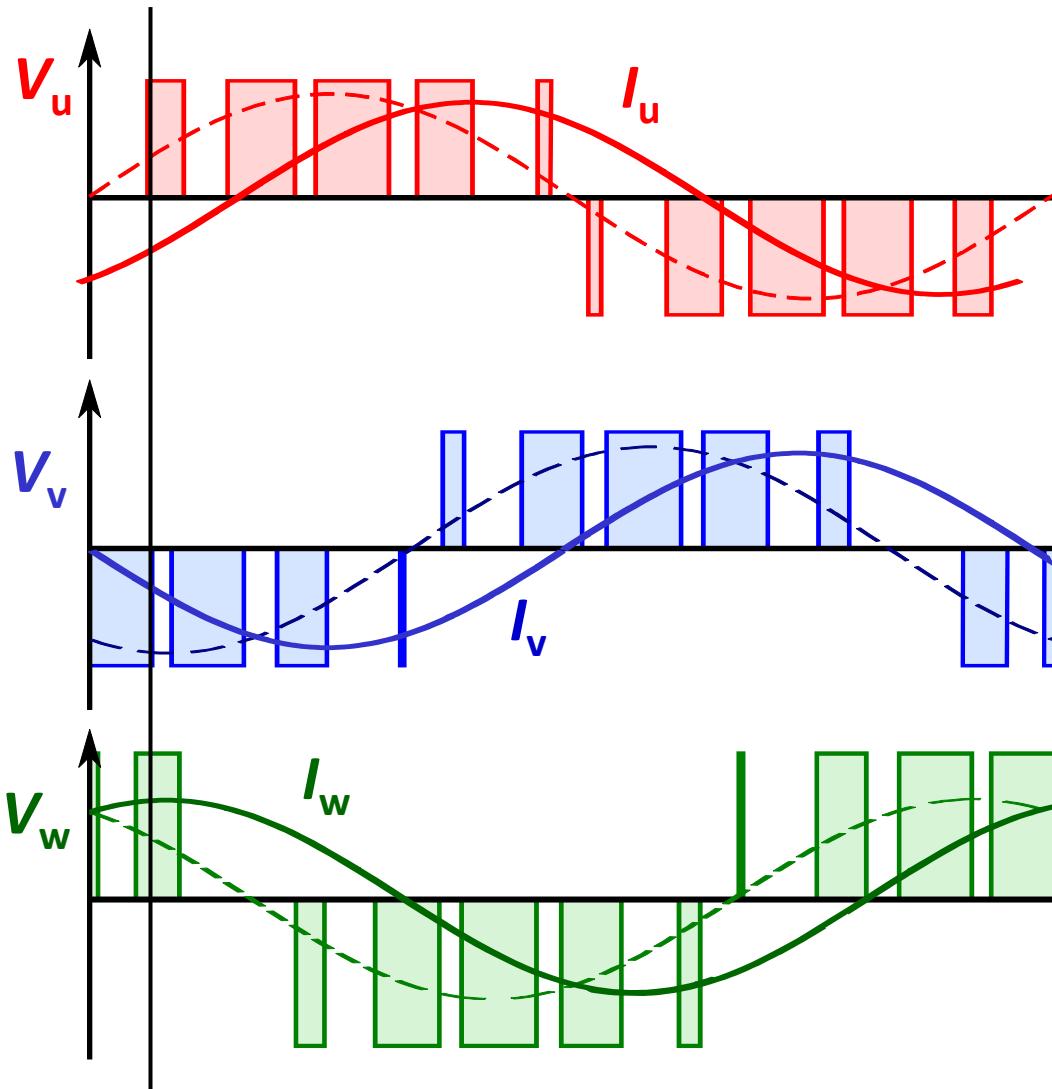
$V_u$	$V_v$	$V_w$
+	-	+
$I_u$	$I_v$	$I_w$
-	-	+

# 3-Phase Circuit with Inductive Load



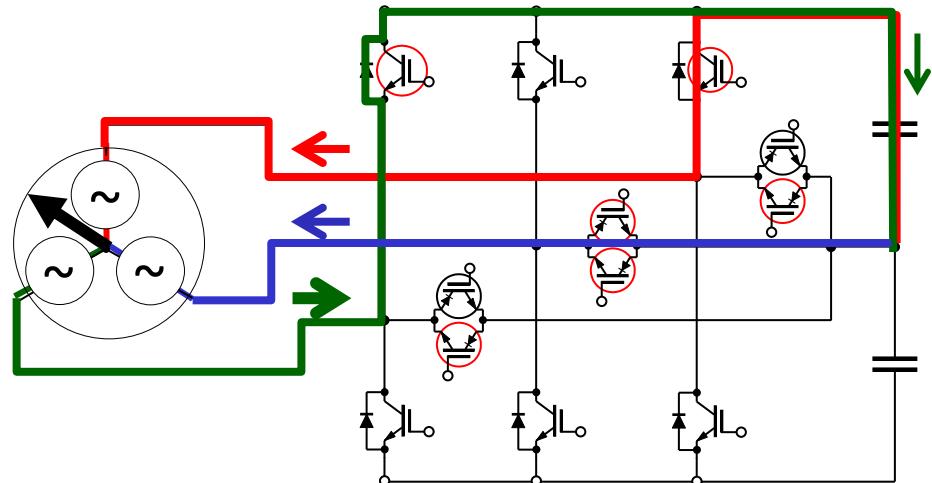
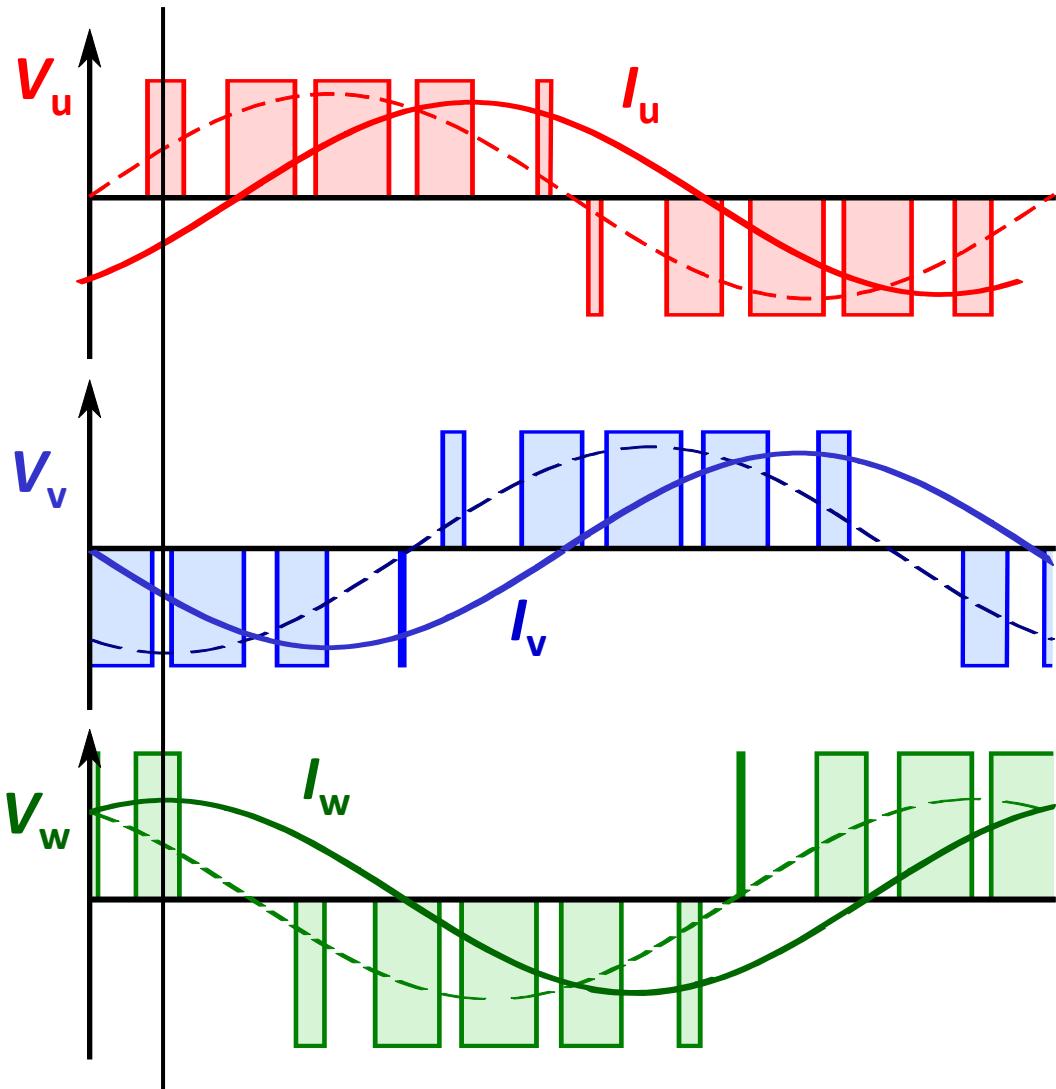
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+	-	+
$I_u$	$I_v$	$I_w$
-	-	+

# 3-Phase Circuit with Inductive Load



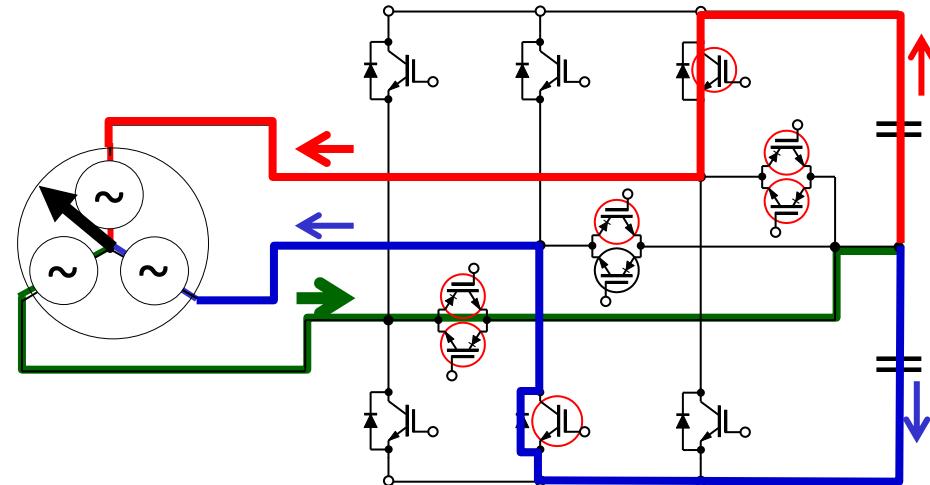
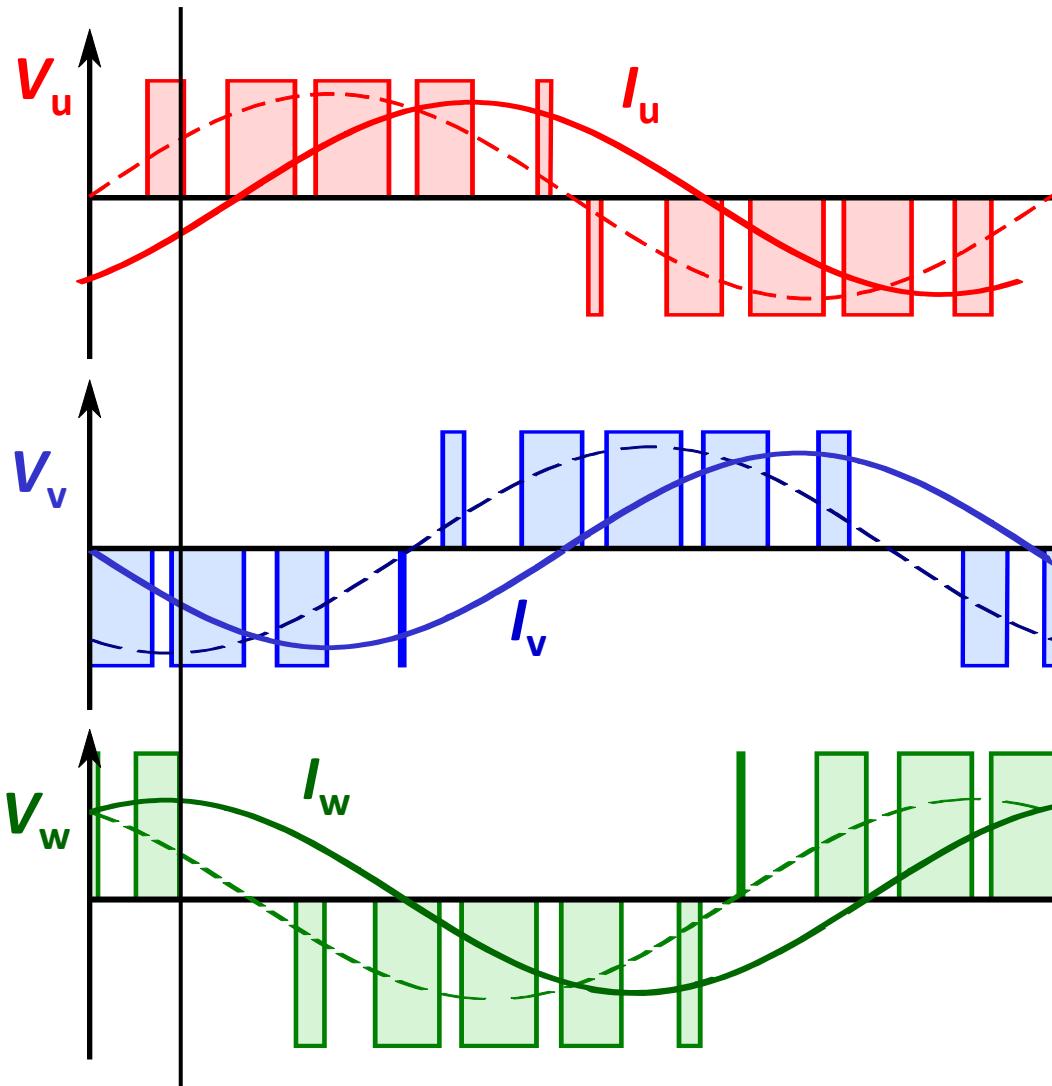
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+	-	+
$I_u$	$I_v$	$I_w$
-	-	+

# 3-Phase Circuit with Inductive Load



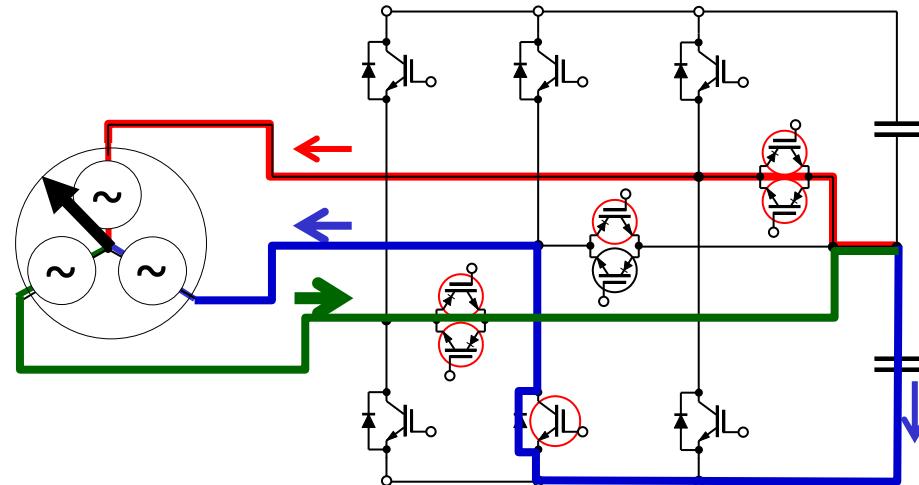
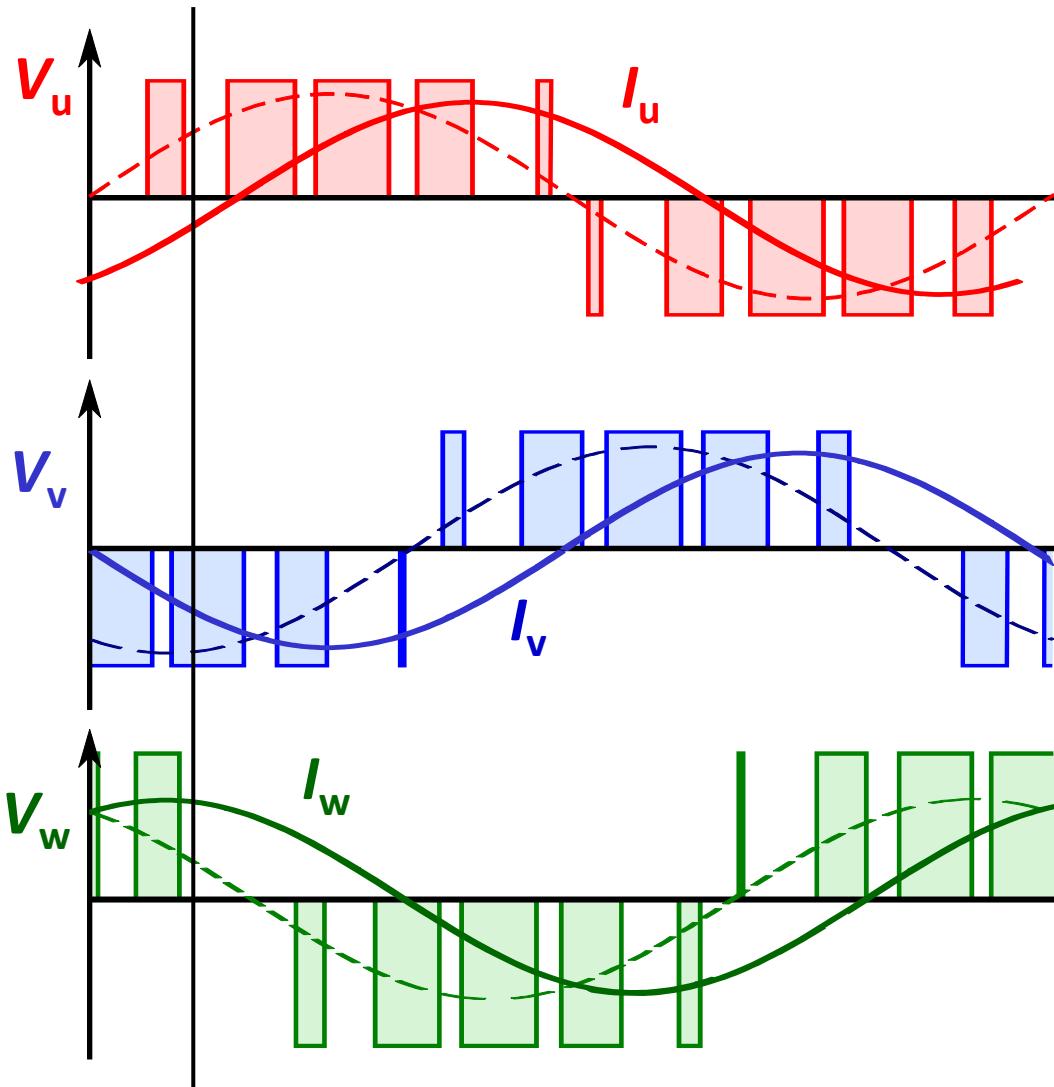
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$I_u$	$I_v$	$I_w$
-	-	+

# 3-Phase Circuit with Inductive Load



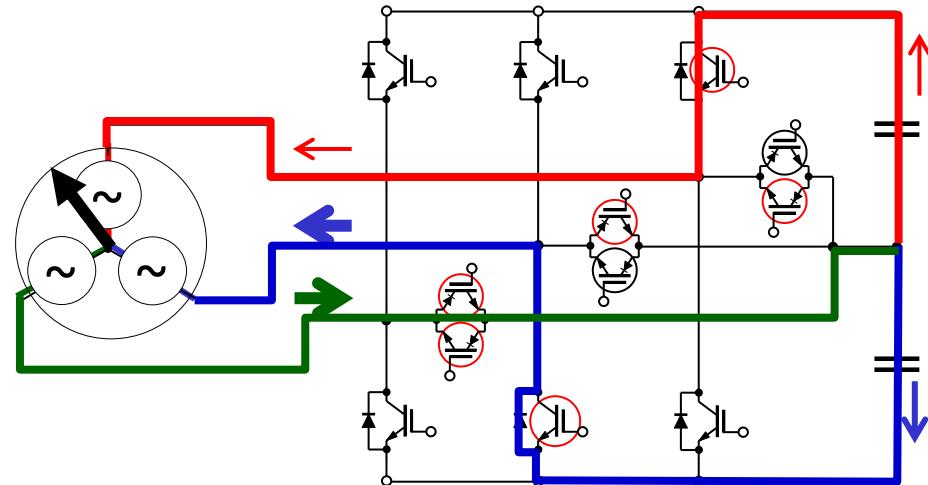
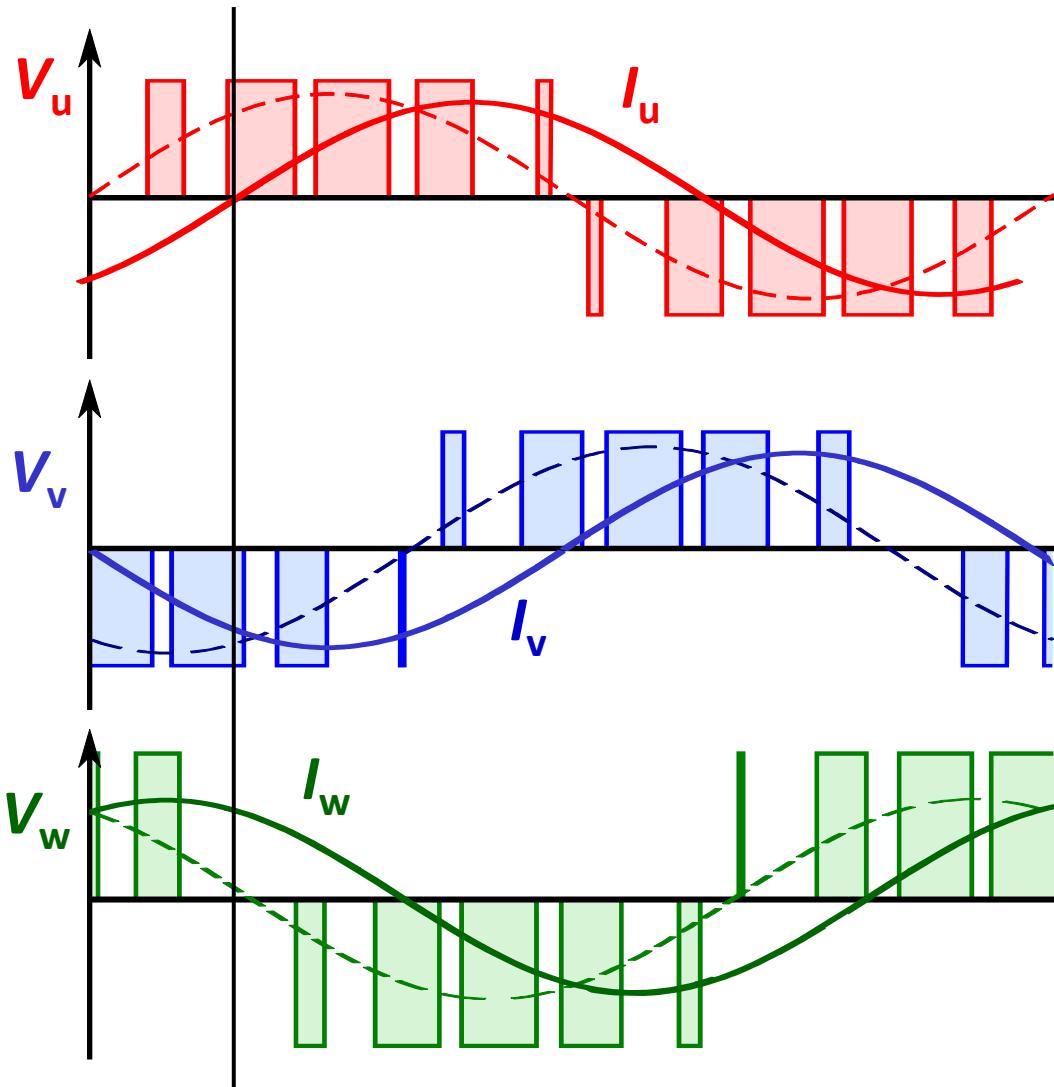
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+	-	+
$I_u$	$I_v$	$I_w$
-	-	+

# 3-Phase Circuit with Inductive Load



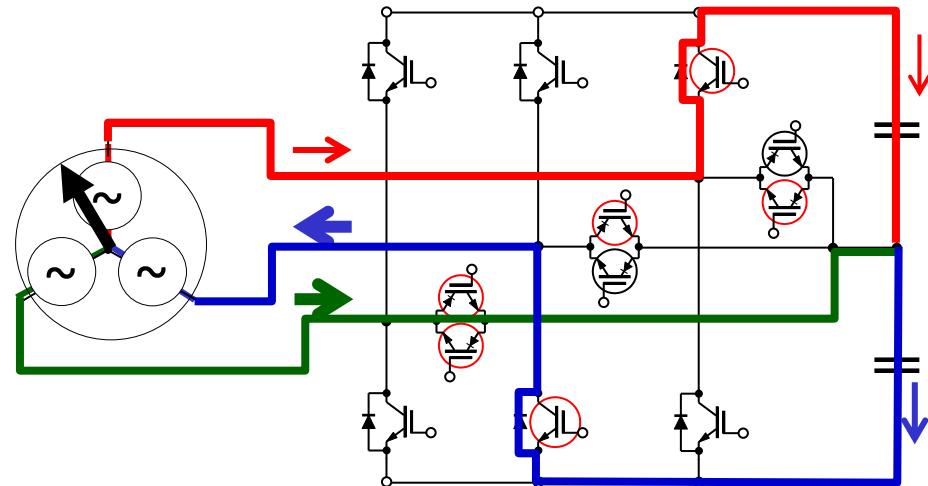
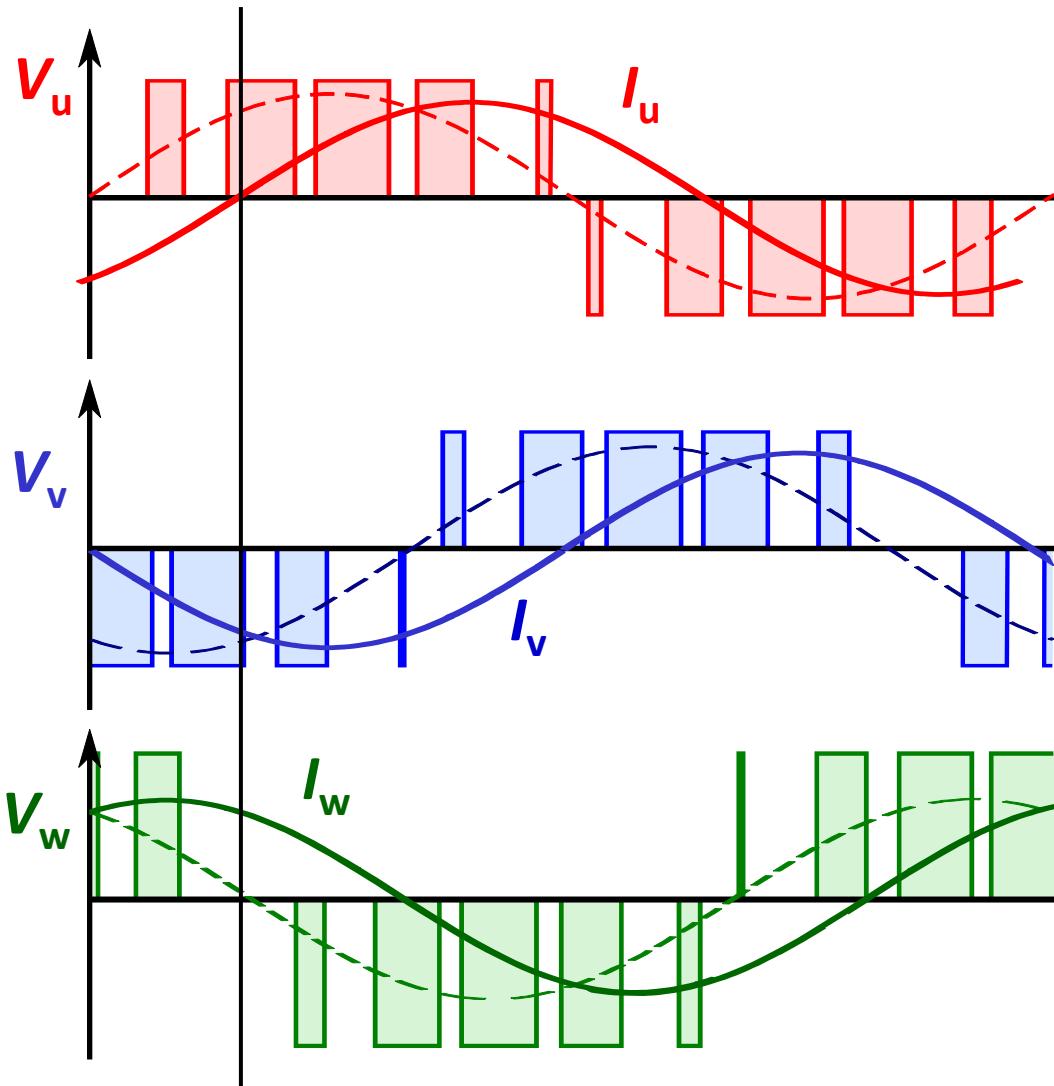
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$I_u$	$I_v$	$I_w$
-	-	+

# 3-Phase Circuit with Inductive Load



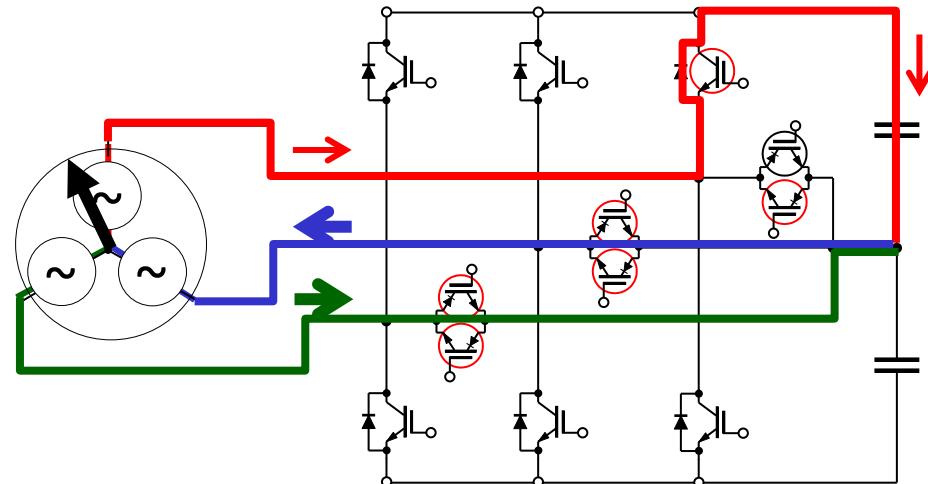
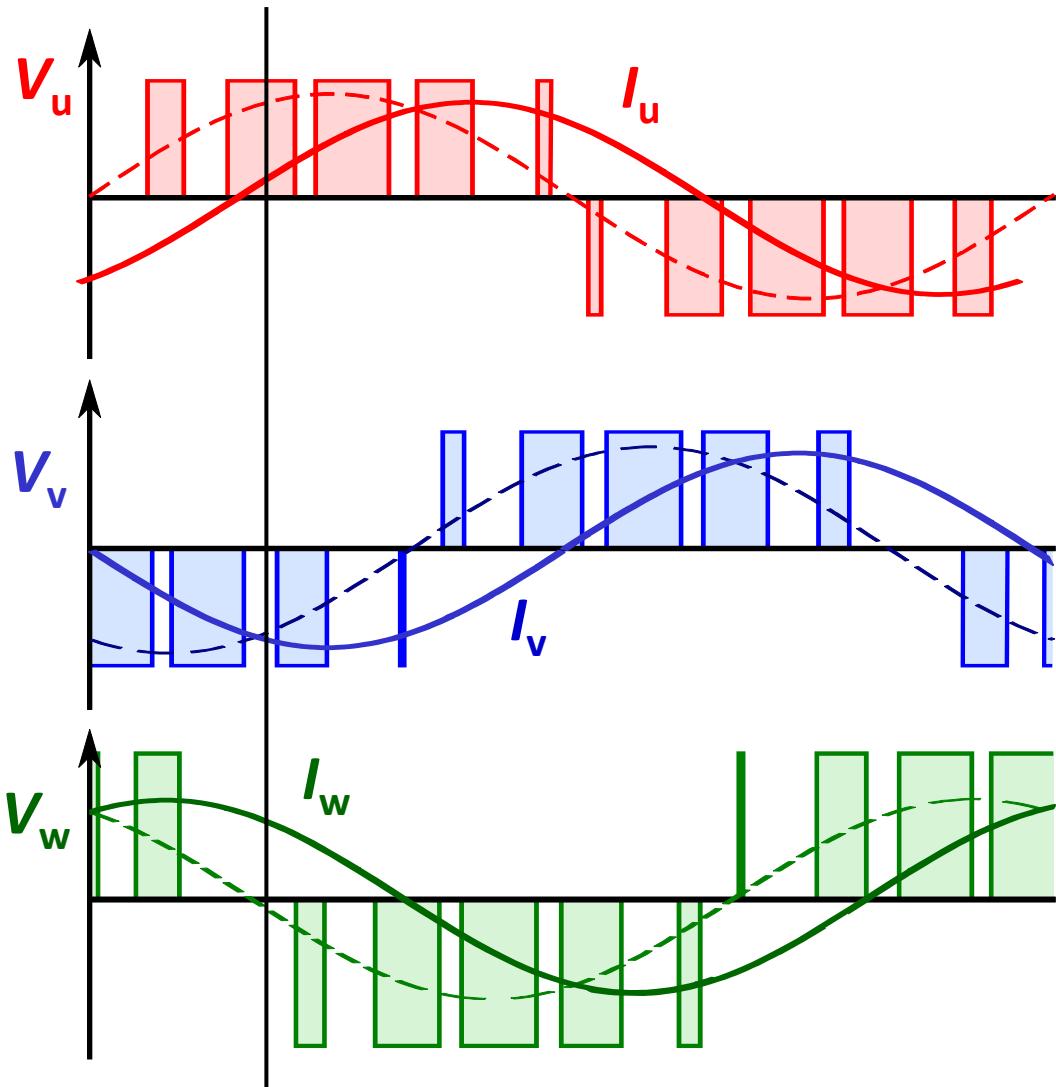
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+	-	+
$I_u$	$I_v$	$I_w$
-	-	+

# 3-Phase Circuit with Inductive Load



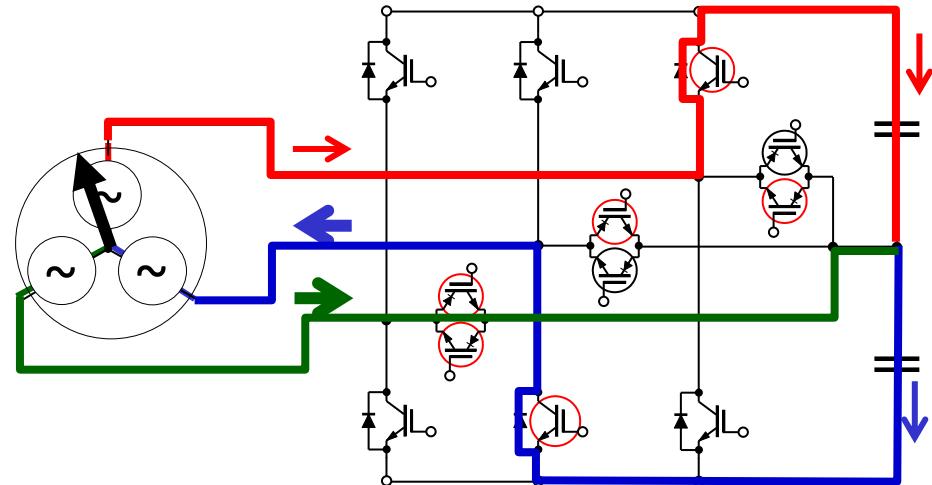
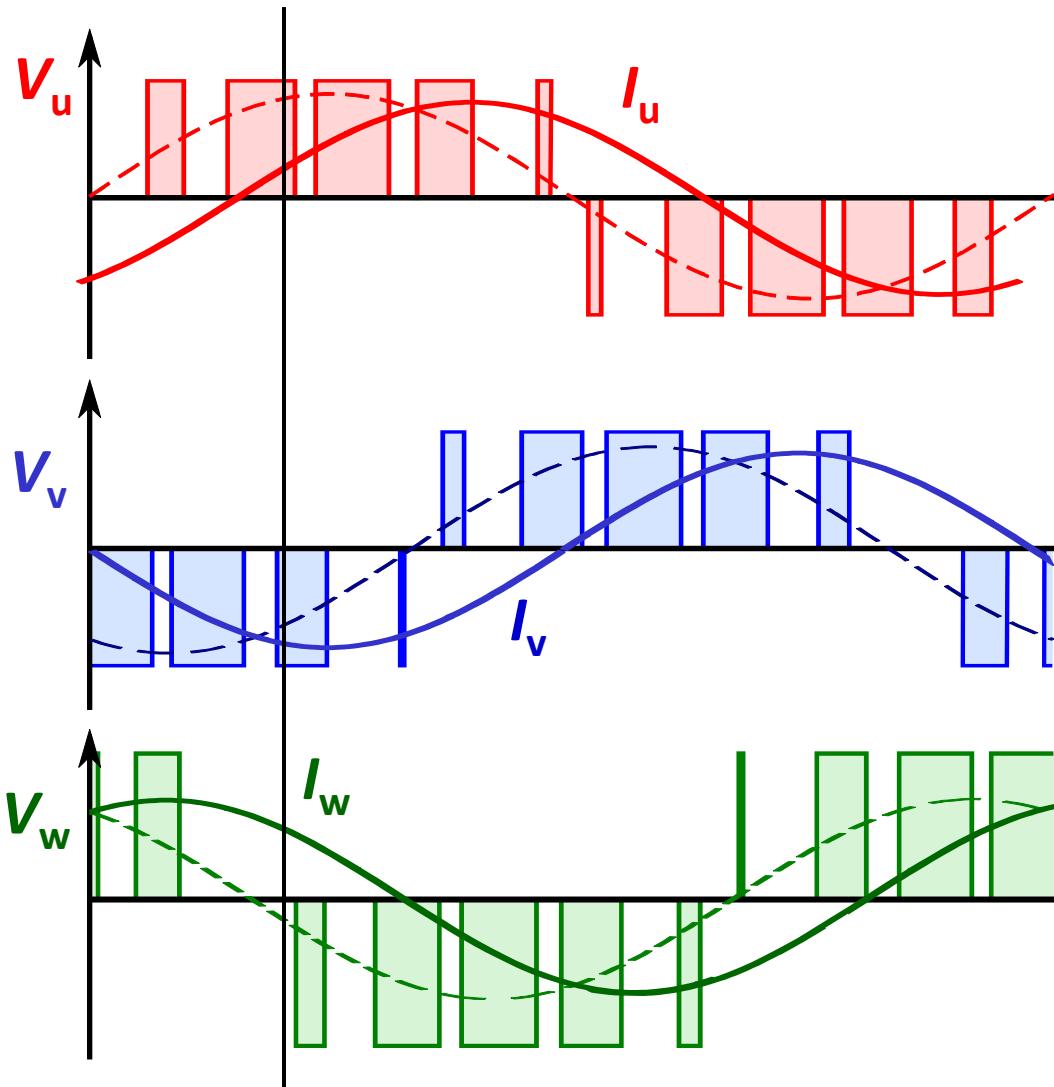
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+	-	+

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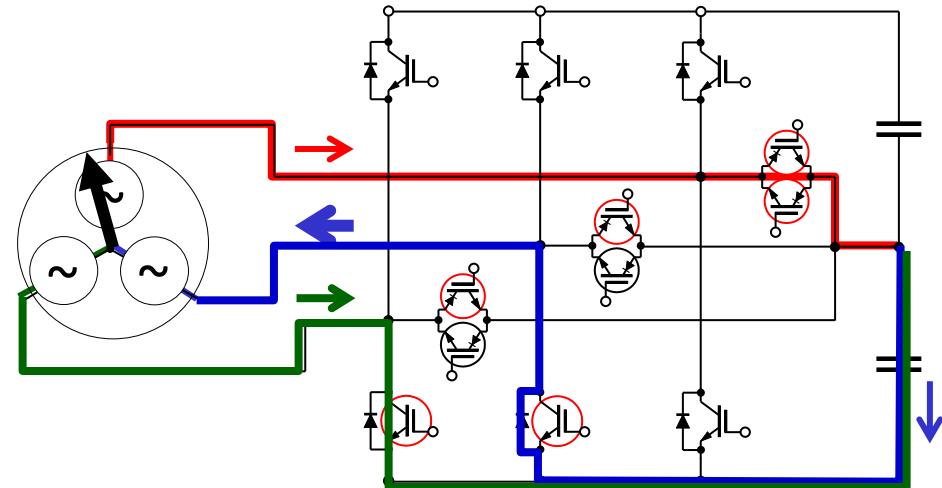
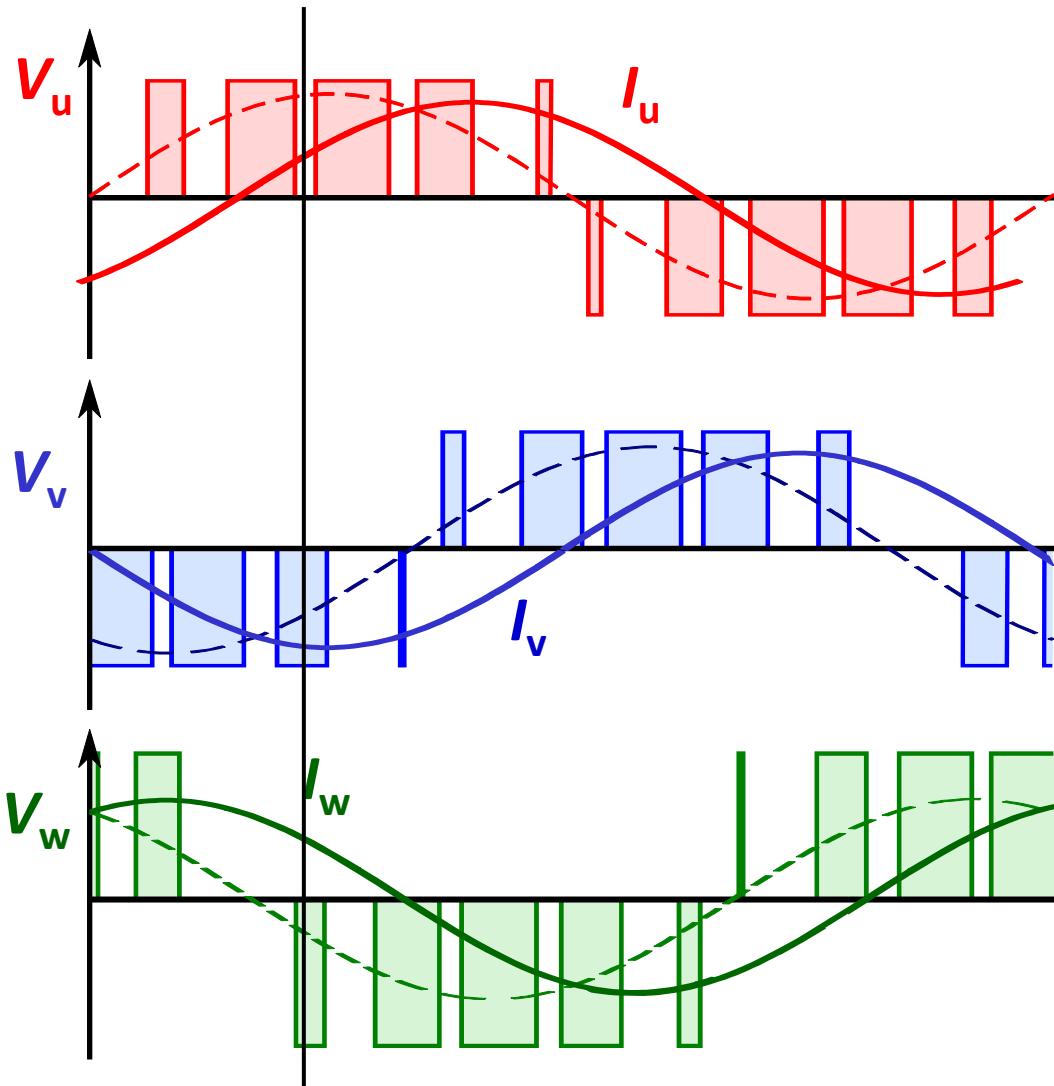
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$I_u$	$I_v$	$I_w$
+	-	+

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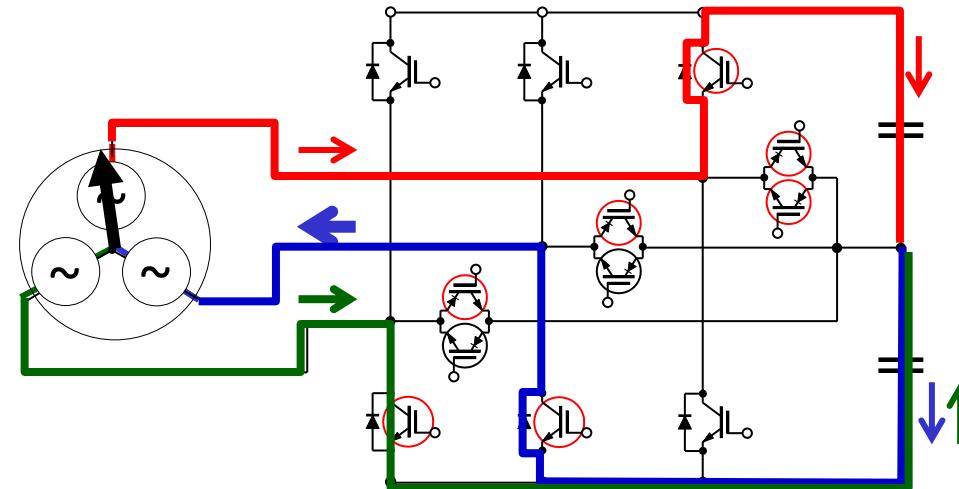
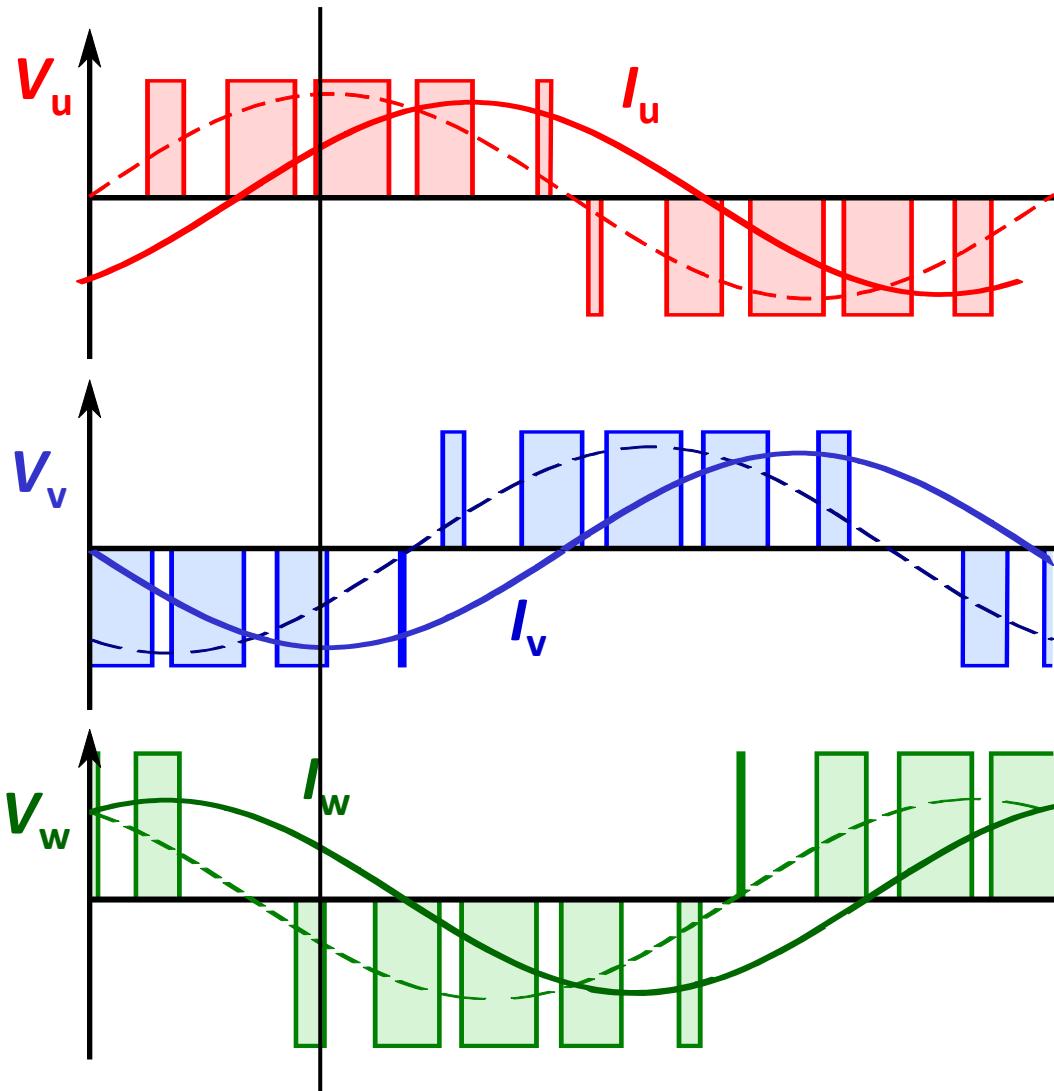
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$I_u$	$I_v$	$I_w$
+	-	+

# 3-Phase Circuit with Inductive Load



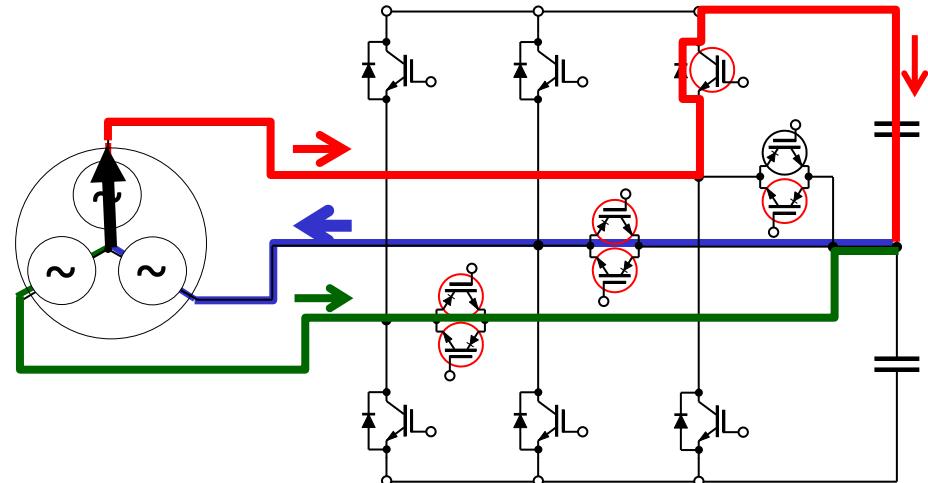
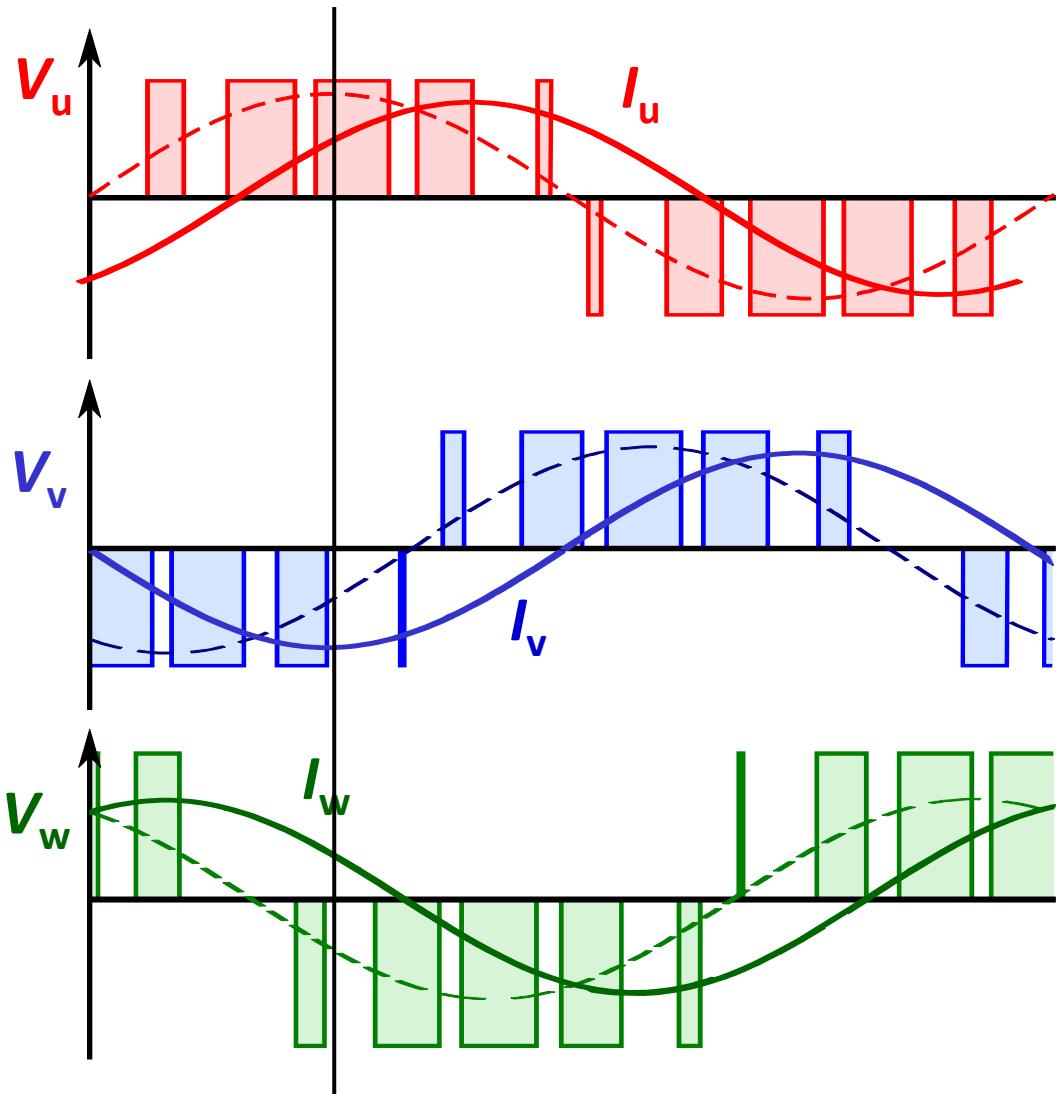
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$I_u$	$I_v$	$I_w$
+	-	+

# 3-Phase Circuit with Inductive Load



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+	-	-
$I_u$	$I_v$	$I_w$
+	-	+

# 3-Phase Circuit with Inductive Load



$V_u$	$V_v$	$V_w$
+	-	-
$I_u$	$I_v$	$I_w$
+	-	+