

LW5 系列 万能转换开关



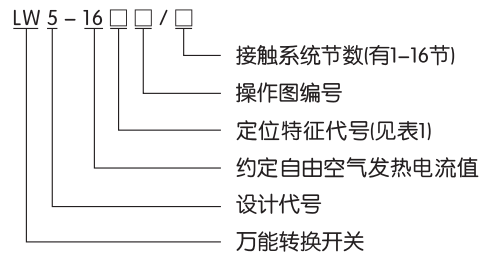
1 适用范围

LW5 系列万能转换开关主要适用于交流50Hz~60Hz、电压至380V，直流电压至440V的电路中转换电气控制线路(电磁线圈、电气测量仪表和伺服电动机等)，也可直接控制 5.5kW 三相笼型感应电动机(启动、可逆转换、变速)。

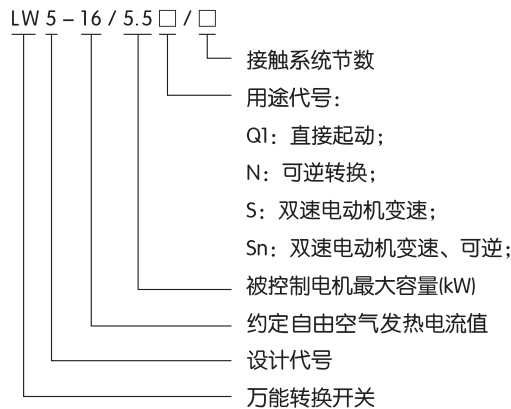
符合标准：GB 14048.5 IEC 60947-5-1。

2 型号及含义

2.1 主令控制用时型号



2.2 直接控制电动机时型号



3 分类

- 3.1 按用途分有主令控制用和直接控制5.5kW电动机用两种。
- 3.2 按操作方式分有定位型和自复型两种。
- 3.3 按接触系统节数分有1~16节，共16种。
- 3.4 按操作系统外形分有旋钮式和球型捏手式两种。

3.5 定位特征代号与操动器位置组合分类

表1

| 操动方式 | 定位特征代号 | 操动器位置 | | | | | | | | | | | |
|------|--------|-------------------------|------------------------------|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 自复型 | A | 0° ← 45° | | | | | | | | | | | |
| | B | 45° → 0° ← 45° | | | | | | | | | | | |
| | C | 0° 45° | | | | | | | | | | | |
| | D | 45° 0° 45° | | | | | | | | | | | |
| | E | 45° 0° 45° 90° | | | | | | | | | | | |
| 定位型 | F | 90° 45° 0° 45° 90° | | | | | | | | | | | |
| | G | 90° 45° 0° 45° 90° 135° | | | | | | | | | | | |
| | H | 135° | 90° 45° 0° 45° 90° 135° | | | | | | | | | | |
| | I | 135° | 90° 45° 0° 45° 90° 135° 180° | | | | | | | | | | |
| | J | 120° | 90° | 60° | 30° | 0° | 30° | 60° | 90° | 120° | | | |
| | K | 120° | 90° | 60° | 30° | 0° | 30° | 60° | 90° | 120° | 150° | | |
| | L | 150° | 120° | 90° | 60° | 30° | 0° | 30° | 60° | 90° | 120° | 150° | |
| | M | 150° | 120° | 90° | 60° | 30° | 0° | 30° | 60° | 90° | 120° | 150° | 180° |
| | N | 45° 45° | | | | | | | | | | | |
| | P | 90° 0° 90° | | | | | | | | | | | |

4 正常工作条件和安装条件

- 4.1 周围空气温度为：-5℃~+40℃，24小时内其平均值不超过+35℃。
- 4.2 海拔高度：不超过2000m。
- 4.3 大气条件：在最高温度为+40℃时，空气的相对湿度不超过50%，在较低的温度下可以允许有较高的相对湿度，例如+20℃时达90%。对由于温度变化偶尔产生的凝露应采取特殊的措施。
- 4.4 污染等级：3级。
- 4.5 安装类别：II类。
- 4.6 无显著摇动、冲击振动和没有雨雪侵袭的地方。
- 4.7 在无爆炸危险的介质中，且介质中无足以腐蚀金属和破坏绝缘的气体 and 尘埃。
- 4.8 与垂直面的倾斜度不超过±5°。

5 主要参数及技术性能

5.1 主要技术参数

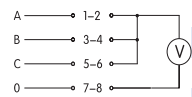
表2

| 项目 | AC-15 | | DC-13 | | | AC-15 | | AC-3 | |
|---------------|-----------------------|-----|----------------------|------|------|------------------------|------|------|-----|
| Ue(V) | 500 | 380 | 220 | 440 | 220 | 110 | 110 | 380 | 500 |
| Ie(A) | 2.0 | 2.6 | 4.6 | 0.14 | 0.27 | 0.55 | 0.82 | 12 | 11 |
| 电寿命(次) | 20 × 10 ⁴ | | 20 × 10 ⁴ | | | 19.5 × 10 ⁴ | | | |
| 操作频率次/h | 300 | | | | | | | | |
| 机械寿命(次) | 100 × 10 ⁴ | | | | | | | | |
| 绝缘电压(V) | 550V | | | | | | | | |
| 约定自由空气发热电流(A) | 16A | | | | | | | | |

5.2 LW5-16系列电压、电流测量转换开关和常用控制开关接线图

相电压换相开关

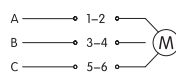
| LW5-16/YH ₁ /2 | 0 | U _A | U _B | U _C |
|----------------------------|----|----------------|----------------|----------------|
| LW12-16/YH ₁ /2 | 0° | 90° | 180° | 270° |



| | | | | |
|---|---|---|---|---|
| x | | | | |
| | x | | | |
| | | x | | |
| | | | x | |
| | | | | x |
| | x | x | x | |

电机直接起动开关

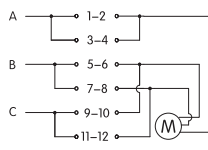
| LW5-16/Q1/2 | 0 | 1 |
|-------------|----|-----|
| LW12-16/Q/2 | 0° | 45° |



| | | |
|--|--|---|
| | | x |
| | | x |
| | | x |
| | | x |

可逆转换开关

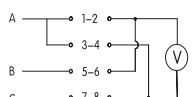
| LW5-16/5.5N/3 | 1 | 0 | 2 |
|----------------|-----|----|-----|
| LW12-16/5.5N/3 | 45° | 0° | 45° |



| | | | |
|--|---|--|---|
| | x | | x |
| | x | | x |
| | | | x |
| | | | x |
| | x | | |

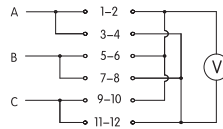
线电压换相开关

| LW5-16/YH ₂ /2 | 0 | U _{AB} | U _{BC} | U _{CA} |
|----------------------------|----|-----------------|-----------------|-----------------|
| LW12-16/YH ₂ /2 | 0° | 90° | 180° | 270° |



| | | | | |
|--|---|---|---|---|
| | | | | x |
| | x | | | |
| | | x | | |
| | | | x | |
| | x | x | x | |

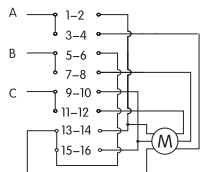
| LW5-16/YH ₃ /3 | 0 | U _{AB} | U _{BC} | U _{CA} |
|----------------------------|----|-----------------|-----------------|-----------------|
| LW12-16/YH ₃ /3 | 0° | 90° | 180° | 270° |



| | | | | |
|--|--|--|--|---|
| | | | | x |
| | | | | x |
| | | | | x |
| | | | | x |
| | | | | x |

双速电机变速开关

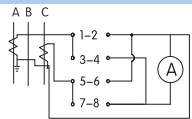
| LW5-16/5.5S/4 | 0 | 1 | 2 |
|----------------|-----|----|-----|
| LW12-16/5.5S/4 | 45° | 0° | 45° |



| | | | |
|--|--|---|---|
| | | x | |
| | | | x |
| | | x | |
| | | | x |
| | | x | |
| | | | x |
| | | | x |

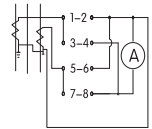
电流换相开关

| LW5-16/LH ₁ /2 | I _A | | I _B | | I _C |
|----------------------------|----------------|-----|----------------|-----|----------------|
| LW12-16/LH ₁ /2 | 90° | 45° | 0° | 45° | 90° |



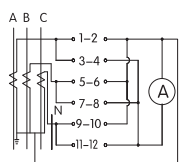
| | | | | | |
|--|---|---|---|---|--|
| | x | x | x | x | |
| | x | x | | | |
| | | | x | x | |
| | | | x | x | |

| LW5-16/LH ₂ /2 | 0 | I _A | I _B | I _C |
|----------------------------|----|----------------|----------------|----------------|
| LW12-16/LH ₂ /2 | 0° | 90° | 180° | 270° |



| | | | | | | | |
|--|---|---|---|---|---|---|---|
| | x | x | | | x | x | x |
| | | x | x | x | x | | |
| | x | x | x | | | | x |
| | | | x | x | x | x | |

| LW5-16/LH ₃ /3 | 0 | I _A | I _B | I _C |
|----------------------------|----|----------------|----------------|----------------|
| LW12-16/LH ₃ /3 | 0° | 90° | 180° | 270° |



| | | | | | | | |
|--|---|---|---|---|---|---|---|
| | x | x | x | x | | | |
| | | x | x | x | | | |
| | x | x | x | | | | x |
| | | x | x | x | | | x |
| | x | x | x | x | | | x |
| | | | | | x | x | x |

| 型号 | 标号 | 0 | 1 | 2 | 节数 |
|---------------------|-------|-----|----|-----|-----|
| | | 45° | 0° | 45° | |
| 特 LW5-16/2 D111 | 1-2 | x | | | 1节 |
| | 3-4 | | x | | |
| | 5-6 | | | x | 2节 |
| 特 LW5-16/3 D222 | 7-8 | x | | | |
| | 9-10 | | x | | |
| 特 LW5-16/5 D333 | 11-12 | | | x | 4节 |
| | 13-14 | x | | | |
| | 15-16 | | x | | |
| 特 LW5-16/6 D444 | 17-18 | | | x | 5节 |
| | 19-20 | x | | | |
| | 21-22 | | x | | |
| 特 LW5-16/8 D555 | 23-24 | | | x | 6节 |
| | 25-26 | x | | | |
| | 27-28 | | x | | |
| 特 LW5-16/9 D666 | 29-30 | | | x | 7节 |
| | 31-32 | x | | | |
| | 33-34 | | x | | |
| 特 LW5-16/11 D777 | 35-36 | | | x | 8节 |
| | 37-38 | x | | | |
| | 39-40 | | x | | |
| 特 LW5-16/12 D888 | 41-42 | | | x | 9节 |
| | 43-44 | x | | | |
| | 45-46 | | x | | |
| 特 LW5-16/14 D999 | 47-48 | | | x | 10节 |
| | 49-50 | x | | | |
| | 51-52 | | x | | |
| | 53-54 | | | | 11节 |
| | | | | | 12节 |
| | | | | | 13节 |
| | | | | | 14节 |

备注：“特”为特殊开关产品，应按图纸订做。

| 型号 | 标号 | 0 | 1 | 2 | 3 | 4 | 节数 |
|----------------|-------|----|-----|-----|------|------|-----|
| | | 0° | 45° | 90° | 135° | 180° | |
| 特 LW5-16/1 | 1-2 | | x | | | | 1节 |
| | 3-4 | | | x | | | |
| LW5-16 E5504/2 | 5-6 | | | | x | | 2节 |
| LW5-16 F5514/2 | 7-8 | | | | | x | |
| LW5-16 F6616/4 | 9-10 | | x | | | | 3节 |
| | 11-12 | | | x | | | |
| | 13-14 | | | | x | | |
| LW5-16 F7717/6 | 15-16 | | | | | x | 4节 |
| | 17-18 | | x | | | | |
| | 19-20 | | | x | | | |
| LW5-16 F8818/8 | 21-22 | | | | x | | 5节 |
| | 23-24 | | | | | x | |
| | 25-26 | | x | | | | |
| 特 LW5-16/10 | 27-28 | | | x | | | 6节 |
| | 29-30 | | | | x | | |
| | 31-32 | | | | | x | |
| 特 LW5-16/12 | 33-34 | | x | | | | 7节 |
| | 35-36 | | | x | | | |
| | 37-38 | | | | x | | |
| 特 LW5-16/14 | 39-40 | | | | | x | 8节 |
| | 41-42 | | x | | | | |
| | 43-44 | | | x | | | |
| LW5-16/12 | 45-46 | | | | x | | 9节 |
| | 47-48 | | | | | x | |
| | 49-50 | | x | | | | |
| 特 LW5-16/14 | 51-52 | | | | x | | 10节 |
| | 53-54 | | | | | x | |
| | 55-56 | | | | | | |

备注：“特”为特殊开关产品，应按图纸订做。

| 型号 | 标号 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 节数 |
|------------------|-------|----|-----|-----|-----|------|------|------|------|------|------|------|------|----|
| | | 0° | 30° | 60° | 90° | 120° | 150° | 180° | 210° | 240° | 270° | 300° | 330° | |
| LW5-16D/1.T | 1-2 | | x | | | | | | | | | | | 1节 |
| | 3-4 | | | x | | | | | | | | | | |
| 特 LW5-16 E5504/2 | 5-6 | | | | x | | | | | | | | | 2节 |
| 特 LW5-16 F5514/2 | 7-8 | | | | | x | | | | | | | | |
| LW5-16 H5884/3.T | 9-10 | | | | | | x | | | | | | | 3节 |
| | 11-12 | | | | | | | x | | | | | | |
| LW5-16 J6217/4.T | 13-14 | | | | | | | | x | | | | | 4节 |
| | 15-16 | | | | | | | | | x | | | | |
| LW5-16 L6557/5.T | 17-18 | | | | | | | | | | x | | | 5节 |
| | 19-20 | | | | | | | | | | | x | | |
| LW5-16/6.T | 21-22 | | | | | | | | | | | | x | 6节 |
| | 23-24 | | | | | | | | | | | | | |

电容器主柜有零位、自动、手动切换转换开关

| 型号 | 标号 | 自动 | 停 | 手动 | 节数 |
|----------------|-------|-----|----|-----|----|
| | | 45° | 0° | 45° | |
| LW5-16 D0081/1 | 1-2 | | | | 1节 |
| | 3-4 | x | | | |
| LW5-16 TD710/2 | 5-6 | x | | | 2节 |
| | 7-8 | x | | | |
| LW5-16 TD710/3 | 9-10 | x | | | 3节 |
| | 11-12 | x | | | |
| LW5-16 TD710/4 | 13-14 | x | | | 4节 |
| | 15-16 | x | | | |
| LW5-16 TD710/5 | 17-18 | x | | | 5节 |
| | 19-20 | x | | | |
| LW5-16 TD710/6 | 21-22 | x | | | 6节 |
| | 23-24 | x | | | |

电容器主柜有零位、自动、手动切换转换开关

| 型号 | 标号 | 自动 | | 停 | 手动 | 节数 |
|-----------------|-------|-----|----|-----|----|-----|
| | | 45° | 0° | 45° | | |
| LW5-16 TD710/7 | 25-26 | x | | | | 7节 |
| | 27-28 | x | | | | |
| LW5-16 TD710/8 | 29-30 | x | | | | 8节 |
| | 31-32 | x | | | | |
| LW5-16 TD710/9 | 33-34 | x | | | | 9节 |
| | 35-36 | x | | | | |
| LW5-16 TD710/10 | 37-38 | x | | | | 10节 |
| | 39-40 | x | | | | |

电容器主柜有零位、自动、手动切换转换开关

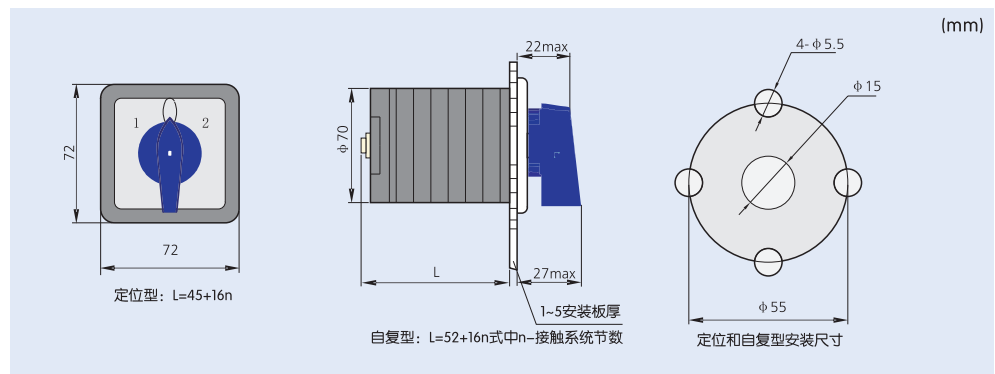
| 型号 | 标号 | 自动 | | A | | B | | C | | D | | E | | 节数 | 备注 |
|----------------|-------|----|----|---|---|---|---|---|---|---|---|----|----|----|------------------|
| | | 停 | 手动 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | |
| | 1-2 | x | x | x | x | x | x | x | x | x | x | x | x | 1节 | |
| | 3-4 | x | | | | | | | | | | | | | |
| | 5-6 | x | | | | | | | | | | | | | |
| | 7-8 | | x | x | x | x | x | x | x | x | x | x | x | | |
| LW5-16 TM703/3 | 9-10 | | | x | x | x | x | x | x | x | x | x | x | 3节 | A: 电容器 主柜2回路 |
| | 11-12 | | | x | x | x | x | x | x | x | x | x | x | | |
| LW5-16 TM704/4 | 13-14 | | | | x | x | x | x | x | x | x | x | x | 4节 | B: 电容器 主柜4回路 |
| | 15-16 | | | | x | x | x | x | x | x | x | x | x | | |
| LW5-16 TM706/5 | 17-18 | | | | | | x | x | x | x | x | x | x | 5节 | C: 电容器 主柜6回路 |
| | 19-20 | | | | | | | x | x | x | x | x | x | | |
| LW5-16 TM706/6 | 21-22 | | | | | | | | x | x | x | x | x | 6节 | D: 电容器 主柜8回路 |
| | 23-24 | | | | | | | | | x | x | x | x | | |
| LW5-16 TM707/7 | 25-26 | | | | | | | | | | x | x | x | 7节 | E: 电容器 主柜10回路 |
| | 27-28 | | | | | | | | | | | x | x | | |
| LW5-16 TM712/8 | 29-30 | | | | | | | | | | | | x | 8节 | F: 电容器 主柜12回路 |
| | 31-32 | | | | | | | | | | | | | | |

电容器辅柜转换开关

| 型号 | 标号 | 0 | | A | | B | | C | | D | | E | | 节数 | 备注 |
|----------------|-------|----------------|-----|-----|-----|------|------|------|------|------|------|------|----|------------------|----|
| | | 0° | 30° | 60° | 90° | 120° | 150° | 180° | 210° | 240° | 270° | 300° | | | |
| | | LW5-16 D5088/2 | 1-2 | x | x | x | x | x | x | x | x | x | x | | |
| | 3-4 | | | x | x | x | x | x | x | x | x | | | | |
| LW5-16 E5514/2 | 5-6 | | | | x | x | x | x | x | x | x | x | 2节 | B: 电容器 辅柜4回路 | |
| LW5-16 F5503/3 | 7-8 | | | | x | x | x | x | x | x | x | | | | |
| LW5-16 C5855/3 | 9-10 | | | | | | x | x | x | x | x | x | 3节 | C: 电容器 辅柜6回路 | |
| LW5-16 H5889/3 | 11-12 | | | | | | | x | x | x | x | | | | |
| LW5-16 I6211/4 | 13-14 | | | | | | | | x | x | x | x | 4节 | D: 电容器 辅柜8回路 | |
| LW5-16 I6212/4 | 15-16 | | | | | | | | | x | x | x | | | |
| 特 LW5-16/5.T | 17-18 | | | | | | | | | | x | x | 5节 | E: 电容器 辅柜10回路 | |
| LW5-16 L6560/5 | 19-20 | | | | | | | | | | | x | | | |

| 型号 | 标号 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 节数 |
|-----------------|-------|----|-----|-----|-----|------|------|------|------|------|------|------|------|-----|
| | | 0° | 30° | 60° | 90° | 120° | 150° | 180° | 210° | 240° | 270° | 300° | 330° | |
| LW5-16 C02/1 | 1-2 | | x | | | | | | | | | | | 1节 |
| | 3-4 | | x | | | | | | | | | | | |
| LW5-16 D022/2 | 5-6 | | | x | | | | | | | | | | 2节 |
| | 7-8 | | | x | | | | | | | | | | |
| LW5-16 E5949/3 | 9-10 | | | | x | | | | | | | | | 3节 |
| | 11-12 | | | | x | | | | | | | | | |
| LW5-16 E1131/4T | 13-14 | | | | | x | | | | | | | | 4节 |
| | 15-16 | | | | | x | | | | | | | | |
| LW5-16 G6700/5 | 17-18 | | | | | | x | | | | | | | 5节 |
| | 19-20 | | | | | | x | | | | | | | |
| LW5-16 H6844/6 | 21-22 | | | | | | | x | | | | | | 6节 |
| | 23-24 | | | | | | | x | | | | | | |
| LW5-16 I7228/7 | 25-26 | | | | | | | | x | | | | | 7节 |
| | 27-28 | | | | | | | | x | | | | | |
| LW5-16 J7542/8 | 29-30 | | | | | | | | | x | | | | 8节 |
| | 31-32 | | | | | | | | | x | | | | |
| LW5-16 K0229/9 | 33-34 | | | | | | | | | | x | | | 9节 |
| | 35-36 | | | | | | | | | | x | | | |
| LW5-16 L8067/10 | 37-38 | | | | | | | | | | | x | | 10节 |
| | 39-40 | | | | | | | | | | | x | | |
| LW5-16 M8341/11 | 41-42 | | | | | | | | | | | | x | 11节 |
| | 43-44 | | | | | | | | | | | | x | |

6 外形及安装尺寸



7 订货须知

- 7.1 用户订货时，采用开关的完整型号进行订货。
- 7.2 例如:订货万能转换开关LW5，接线图型式为100台。
- 7.3 订货代号为LW5-16 D0723/3 100台。

| 接线图编号 | D0723 | | |
|-------|-------|----|-----|
| 转换角度 | 45° | 0° | 45° |
| 1-2 | x | | |
| 3-4 | | | x |
| 5-6 | x | | |
| 7-8 | | | x |
| 9-10 | x | | |
| 11-12 | | | x |