# ORDERING INFORMATION Model : LSMT4

| PLEASE FILL IN THIS SECTION | FACTORY USE ONLY | |
|---|---|---|
| Model | Job No. | Inspected by: |
| Company | Ser No. – | |
| Name | Sales | Inspected by: |
| P/O No. | | |

Fill in blank sections or mark ❑ with ✔.

## INPUT RANGE SETTING

### ■ CONFIGURATION

❑ Single-phase/ 2-wire ❑ Single-phase/ 3-wire ❑ 3-phase/ 3-wire ❑ 3-phase/4-wire
Factory Default Setting: 3-phase/3-wire

### ■ VT SETTING

For the use of a VT, select primary voltage by increments of 10V within range of 50 – 400 000 V.

| Primary voltage | V |
|---|---|

Factory Default Setting; VT unused

For secondary voltage range, specify in integer with range indicated on the table below; this value is the input rated voltage.
Factory Default Setting; 110 V

| CONFIGURATION | RANGE | |
|---|---|---|
| Single-phase/ 2-wire | Voltage between V1 and N | 50 – 277 V |
| 3-phase/ 3-wire | Line-to-line voltage | 50 – 480 V |
| Single-phase/ 3-wire | Voltage between V1 and N | 50 – 277 V |
| 3-phase/ 4-wire | Phase voltage | |

| Secondary voltage (rated voltage) | V |
|---|---|

### ■ CT SETTING

For the use of a CT, select primary current in integer within range of 1 – 20 000 A. For secondary current, rated current is 1A or 5A depending on the model.
Factory Default Setting; CT unused

| Primary current | A |
|---|---|

### ■ RATED INPUT POWER

| ❑ Standard | ❑ No compensation |
|---|---|

**• When choosing "Standard"**

Rated input power is calculated as following: A = VT secondary voltage × CT secondary current (1 or 5) × a
(a = 1 for single phase/2-wire; 2 for single phase/3-wire or three phase/3-wire; 3 for three phase/4-wire)
Rated input power is the value rounded from A to the nearest hundred that is the result of an integer multiplied by 100 times CT secondary current.
Example:

| CONFIGURATION | RANGE | RATED INPUT POWER |
|---|---|---|
| Single phase/ 2-wire | 110 V / 5 A<br>220 V / 5 A | 500 W<br>1000 W |
| Single phase/ 3-wire | 110 V / 5 A | 1000 W |
| 3 phase/ 3-wire | 110 V / 5 A<br>220 V / 5 A | 1000 W<br>2000 W |
| 3 phase/ 4-wire | 220 V / 5 A | 3500 W |

**• When choosing "No Compensation"**

Rated input power value is calculated with the following formulas.
Single phase/ 2 -wire: Power = Rated voltage × Rated current
Single phase/ 3 -wire: Power = Rated voltage × Rated current × 2
3-phase/ 3 -wire: Power = Rated voltage × Rated current × √3
3-phase/ 4 -wire: Power= Rated voltage × Rated current × 3

## OUTPUT SETTING

**■ OUTPUT SIGNAL ASSIGNMENT**

(To fill in only for nonstandard settings)
Select measurement item: I: current, V: voltage, W: power, VA: apparent power, var: reactive power, PF: power factor, Hz: frequency.
Phase voltage V1N, V2N, and V3N are also selectable for 3-phase/4-wire.
Enter "-", for unused channels.

**• Single phase/ 2-wire**

| CH. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard | I1 | – | – | V1N | – | – | W | var | PF | Hz |
| Your specification | | | | | | | | | | |

**• Single phase/ 3-wire**

| CH. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard | I1 | IN | I3 | V1N | V3N | V31 | W | var | PF | Hz |
| Your specification | | | | | | | | | | |

**• 3 phase/ 3-wire, 3 phase/ 4-wire**

| CH. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard | I1 | I2 | I3 | V12 | V23 | V31 | W | var | PF | Hz |
| Your specification | | | | | | | | | | |

**■ ANALOG LIMIT**

| | |
|---|---|
| ❑ With | Limit at -1 % and +101 % |
| ❑ Without (STD) | No limit (output -5 to +105 %) |

Caution: Do not specify analog limit settings in case of linearization table use, as output settings are performed with the table.

## ■ OUTPUT RANGE

**• Voltage**

Specify the 100% of voltage input range in integer, with 50 through 480V for line to line voltage and 50 through 277V for phase voltage.

0% is 0V. (Factory setting: 150 V)

| | |
|---|---|
| | V |

**• Current, power, power factor, frequency**

Specify input range in the following table.

For current and power, set input rating to 1 (100%) and fill in the coefficient by which it is multiplied.

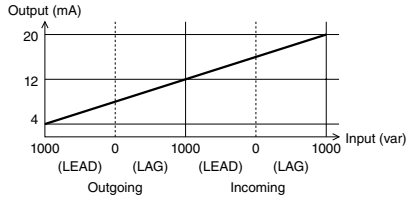
The input rating is the same as the specified on first clause of “rated input power” section.

| INPUT SPECIFICATIONS | | OUTPUT RANGE | | | | | | TIDE (STD.: Without) |
|---|---|---|---|---|---|---|---|---|
| | | OUTPUT 0% | | | OUTPUT 100% | | | |
| | | COEFFICIENT | RANGE | STD. | COEFFICIENT | RANGE | STD. | |
| CURRENT | N/A | | 0 – 0.2 | 0 | | 0.5 – 1.2 | 1 | N/A |
| POWER | N/A | | -1.2 – +0.2 | 0 | | 0.5 – 1.2 | 1 | By negative cos. |
| APPARENT POWER | N/A | | 0 – 0.2 | 0 | | 0.5 – 1.2 | 1 | N/A |
| REACTIVE PWR. | ❑ 0 – LEAD | | -0.2 – 0 | 0 | | -0.5 – -1.2 | -1 | N/A |
| | ❑ 0 – LAG | | 0 – 0.2 | 0 | | 0.5 – 1.2 | 1 | N/A |
| | ❑ LEAD – LAG (STD) | | -0.4 – -1.2 | -1 | | 0.4 – 1.2 | 1 | ❑ With ❑ Without |
| | ❑ LAG – LEAD | | 0-4 – 1.2 | 1 | | -0.4 – -1.2 | -1 | ❑ With ❑ Without |
| POWER FACTOR | ❑ LEAD 0.5 – 1 – LAG 0.5 | STD: LEAD 0.5 – 1 – LAG 0.5 | | | | | | ❑ With ❑ Without |
| | ❑ LAG 0.5 – 1 – LEAD 0.5 | | | | | | | |
| | ❑ LEAD 0 – 1 – LAG 0 | | | | | | | |
| | ❑ LAG 0 – 1 – LEAD 0 | | | | | | | |
| FREQUENCY | ❑ 45 – 65 | STD: 45 – 65 Hz | | | | | | N/A |
| | ❑ 45 – 55 | | | | | | | |
| | ❑ 55 – 65 | | | | | | | |

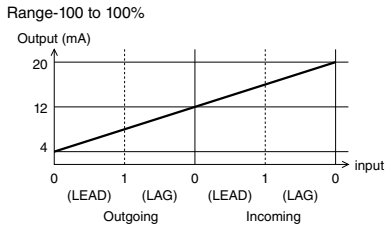
Correlation of reactive power for bidirectional current and power factor for bidirectional current are described in following figure.

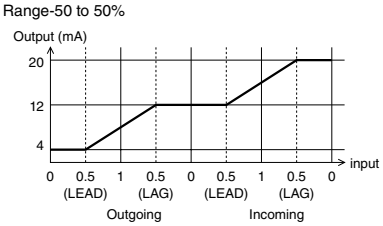
### ■ OUTPUT EXAMPLES

**• Reactive power for bidirectional current**




**• Power factor for bidirectional current**



**• Energy pulse**

Select energy from the following table according to primary power, and fill in the ❑.
Setting values Wh and varh are common use. Output channel 11 is fixed to Wh and 12 to varh.
The primary power is calculated by the following formulas.

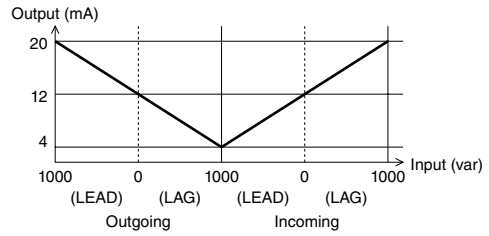
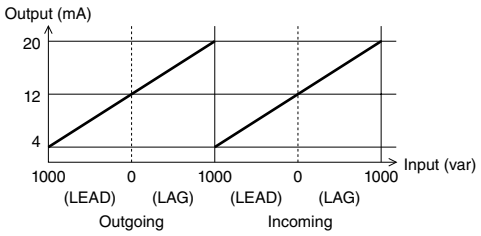
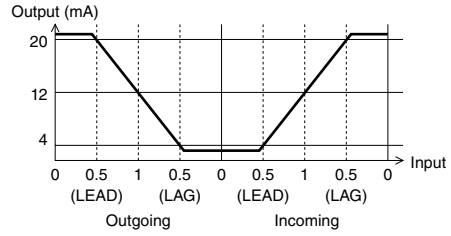
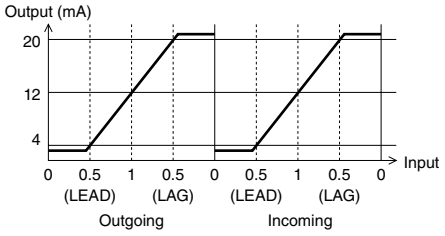
Single phase/ 2 -wire: Power = primary voltage × primary current
Single phase/ 3 -wire: Power = primary voltage (phase voltage) × primary current × 2
3-phase/ 3 -wire: Power = primary voltage × primary current × √3
3-phase/ 4 -wire: Power = primary voltage (phase voltage) x primary current × 3

| PRIMARY POWER (kVA) | USABLE PULSE UNIT (Wh OR varh / PULSE) | | | |
|---|---|---|---|---|
| < 10 | 1 k | 0.1 k | 0.01 k | 0.001 k |
| 10 – 100 | 10 k | 1 k | 0.1 k | 0.01 k |
| 100 – 1 000 | 100 k | 10 k | 1 k | 0.1 k |
| 1 000 – 10 000 | 1 M | 100 k | 10 k | 1 k |
| 10 000 – 100 000 | 10 M | 1 M | 100 k | 10 k |
| ≥ 100 000 | 100 M | 10 M | 1 M | 100 k |
| Your specification | ❑ | ❑ | ❑ | ❑ Standard |

**■ REACTIVE POWER SIGN SETTING**

Specify the characteristic at bidirectional input when reactive power and power factor without bidirectional current.
Refer to the following table in order to output power factor and reactive power when power factor is near 0 to specify.
(IEC is compatible with firmware version 1.3 or later.)

| ❑ Standard (IEC) | ❑ SPC |
|---|---|

| REACTIVE POWER SIGN | IEC | SPC |
|---|---|---|
| REACTIVE POWER |  |  |
| POWER FACTOR |  |  |