# Instruction and Setting of Fixed-Length Control Function of KE300

KE300 has the fixed-length control function, which is widely used in applications such as papermaking industry, textile industry, metalworking industry, printing and packaging industry, woodworking industry etc. Traditionally speaking fixed-length control system is integrated with frequency Inverters, PLCs and Encoders. In applications requiring relative low accuracy, KE300 could be used together with an external encoder realizing the function of fixed-length control easily.

We take application of wire rewinding as an example, to make a brief description of KE300 fixed-length control features.
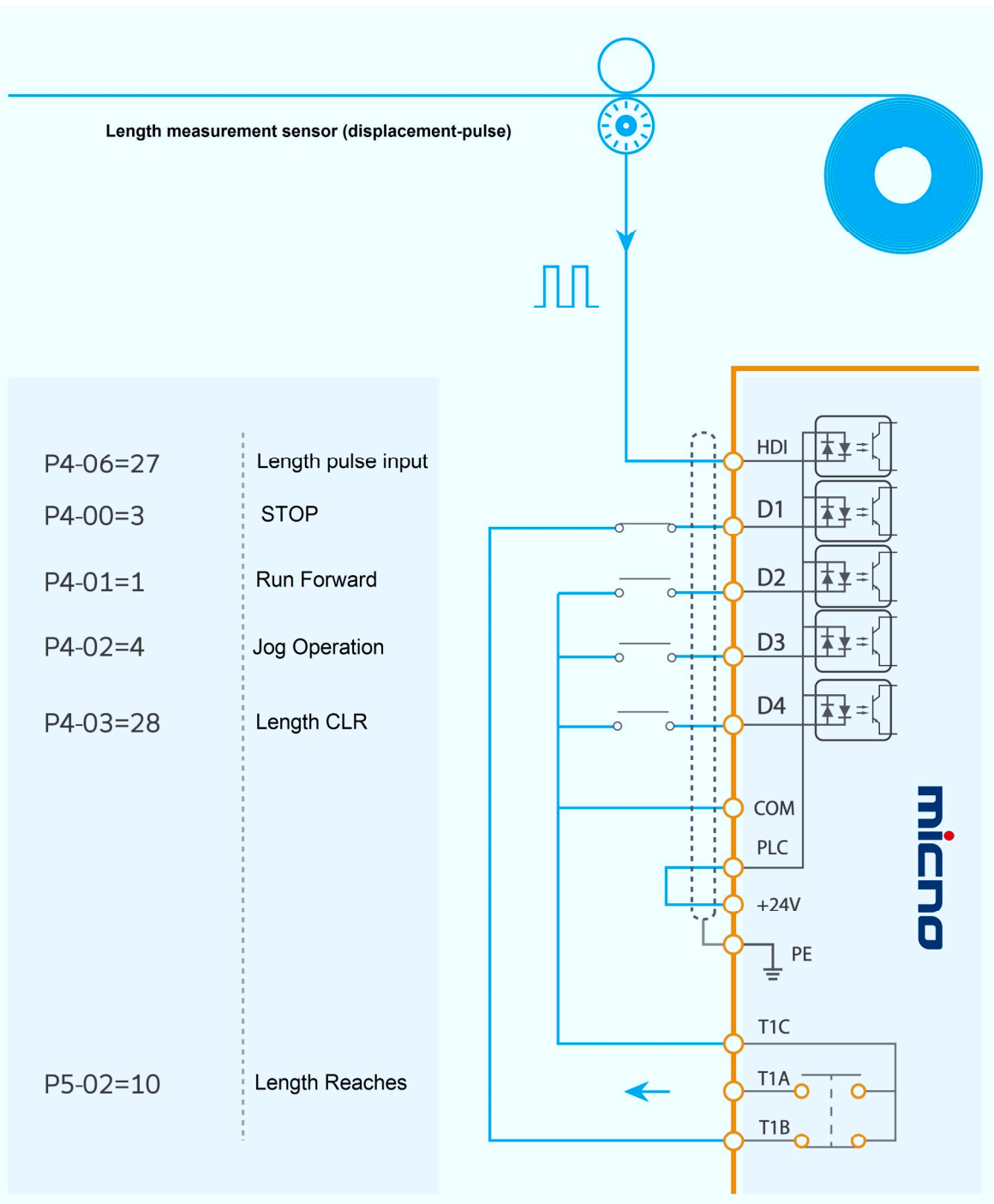
The Principle of KE300 fixed-length control function is shown with a schematic diagram as below:
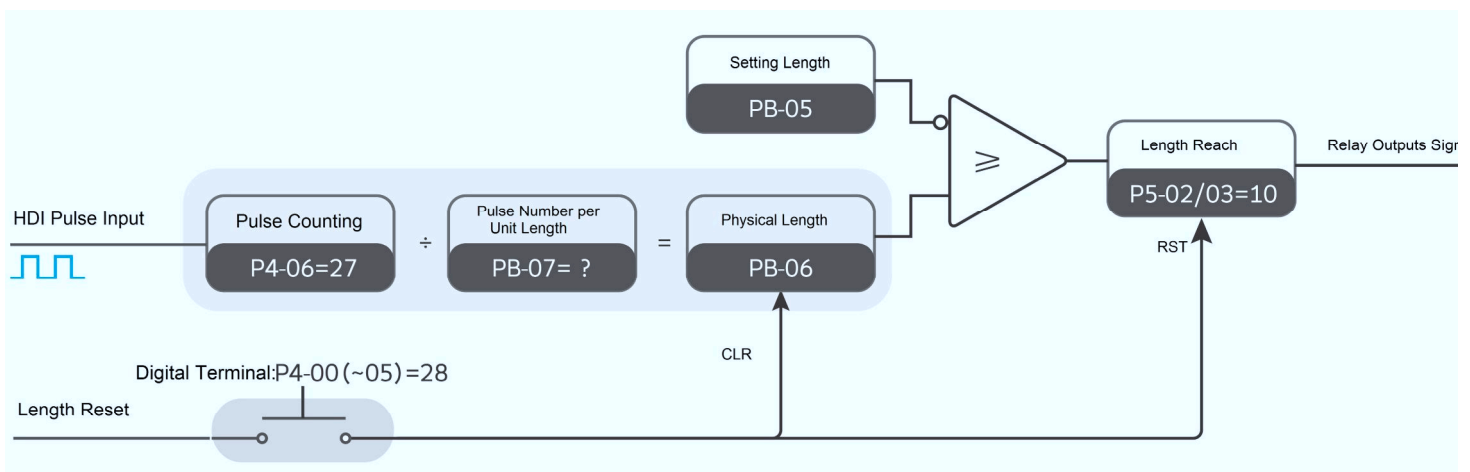
(1) Length pulses are collected by HDI terminal (function selection: 27), terminal sampling pulses numbers divide the number of pulses per meter (PB-07), to calculate the actual length (PB-06).

(2) When the actual length is longer than the set length of PB-05, multi-functional relay output "length reaches" ON signal. In the process of the fixed-length control, it is available to reset the length by multi-functional DI terminals (function selection: 28).

System wiring: the typical fixed-length control wiring diagram is shown as below, users can make changes according to the actual situation.

Length measurement sensor (displacement-pulse)

P4-06=27	Length pulse input	HDI
P4-00=3	STOP	D1
P4-01=1	Run Forward	D2
P4-02=4	Jog Operation	D3
P4-03=28	Length CLR	D4
		COM
		PLC
		+24V
		PE
		T1C
P5-02=10	Length Reaches	T1A
		T1B

(1) By the "length measurement sensor" to change the displacement signal into pulses signal, then input the pulses to KE300 HDI interface.

(2) Regarding to the definition of terminal, please refer to the diagram.

(3) Terminal command mode selections: three-line mode 1, that is P4-11=2, D1 is the enable terminal. Only in the case of D1, D2 both are closed, the forward starting

command is effective. If D1 is disconnected, whether the D2 is closed or not, KE300 stops.

(4) D4 terminal is set to "length clear" signal, that is P4-03=28, manual (or associated to a host device) to clear the length information.

(5) D3 terminal is set to "jog" signal for length fine adjustment.

(6) Relay output 1 is set to "length reaches" signal, when actual length is longer than setting length, output "ON" signal, in the above figure, this signal connected to D1 terminal, to realize stop operation once "length reaches".

Parameters setting: Altogether the contents mentioned above, take "length measure sensor generate 10 pulses per meter", "fixed-length is 2 meters" as an example, the total parameters sheet as listed below:

Function code	Setting value	Function
P0-02	1	Terminal command channel
P4-00	3	Three-line mode running command
P4-01	1	Run forward
P4-02	4	Run forward jog operation
P4-03	28	Length clear
P4-06	27	Length pulse input
P4-11	2	Three-line mode 1
P5-02	10	Relay 1: Length reaches
PB-05	2	Setting Length: 2M
PB-07	10	Pulse Numbers per Unit Length: 10

PB-07   10   Pulse Numbers per Unit Length: 10

HDI length pulse input

1   10   20   1

Length clear input

PB-05=2
PB-06=2   PB-06=0

Length reaches output

IMPORTANT NOTES:

1. Under the fixed-length control mode, motor running direction cannot be recognized, it

can only calculate the length according to the pulse number.

2. Only the HDI terminal can be used as "length counting input" terminal.