# TAKEX

# 16,384 Pixels, 40kHz Scan rate, Camera Link compliant

**DIGITAL LINESCAN CAMERA** 

TL-16KACL



(Lens optional)

#### Overview

- The TL-16KACL inherits the specifications of the conventional model TL-16000CL, and has additional secifications the binning mode and the switching function of clock speed.
- Approximately twice the sensitivity is achieved by the vertical binning function.
- Since the configuration of the Camera Link (Base /Ful I Conf igurat ion) and clock speed(85/80/40MHz) are selectable, this camera can be set to a suitable video output format for the system. Since this model inherits the external dimensions and other specifications of the conventional model, it is easy to replace.
- Industrial digital Line scan camera equipped with a CMOS image sensor which has linearly arranged 16,000 photodiodes.
- High-resolution and High-speed CMOS Line Scan Camera featuring 16,384 image pixels, 40/35 kHz scan rate and 640 MHz data rate.

#### Features

- Since various models of capture boards from board manufacturers can be connected, it is easy to get highprecision images from the camera.
- 3.5µm square pixel size provides high-definition images.
- Equipped with Global shutter function and FFC function.
- Anti-blooming function is incorporated.
- Clear image data is obtained by the small difference of the characteristics of the odd and even-numbered pixels.
- Dark current correction circuit helps to obtain stable images even when the ambient temperature changes.
- DC 12V single power operation.
- Reduction in size and weight is achieved by original design.

#### Applications

- LCD panel inspection equipment applications
- Image processing device for image inspection
- Measuring equipment such as appearance inspec tion device or dimensional measurement device
- Surface inspection device for sheet-like object
- High-resolution pattern inspection instrument
- Data entry device for image processing unit employ ing computer

#### Spectral Sensitivity



	Image sensor	Global shutter CMOS	
	Number of pixels	16384	
	Pixel size	3.5µm × 3.5µm	
	Photo array length	57.344 mm	
	Scan rate	Full 40kHz (85MHz×8TAP)	
	(Data rate) Full 35kHz (80MHz×8TAP)		
		Full 17.5kHz (40MHz×8TAP)	
	Line transfer pulse input	25µsec (Min)	
	Video output (Digital output)	8Bit Full Configuration	
	Sensitivity	gain1=1.2, gain2=4.8 DN/nJ/cm2	
	Saturation exposure	23 ke-(typical value)	
	Dynamic range	60dB (on the element)	
	Output ununiformity	10% standard at 50% of saturation output	
	Power supply	+12V±0.5V (0.6A or less)	
	Operational ambient temperature	0°C to +40	
	Operational humidity range	85 % Max	
	Storage teperature range	-10°C to +65°C	
	Weight	720g or less	
	External dimension	100 (W) × 100 (H) × 34 (D)mm	
	Lens mount	M72, P=0.75mm	
		FFC compensation	
	Additional function	Vertical binning, averaging	
		Switchable clock speed	

#### Specifications

#### **TL-16KACL**

#### Binning



#### Back panel



# Configuration Diagram



### Block Diagram of Image sensor



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#### Connectors

●Power connector(HR 10A-7R-6S)						
	Pin No.	Signal name	Pin No.	Signal name		
	1	+12V	4	GND		
	2	+12V	5	GND		
	3	+12V	6	GND		

• Camera Link connector (3M/MDR-26 FEMALE) The camera is connected to Frame grabber board with two Camera Link cables. (Base connector , Full connector)

## Dimensional Outline Drawing



It may be changed without a notice about all items (product name, a model, specifications, external form dimensions, materials, the price)explained by this catalogue.
We do not take responsibility about any accident damage by an error in the use of deficiency in the construction and deficiency of the maintenance check and this product, the natural disaster (surge, including lightning-induced).

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