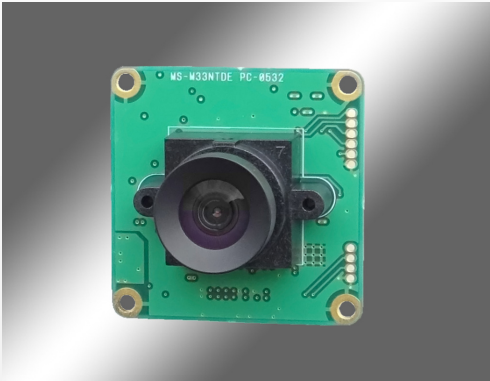


### MS-M33NTDE 1/4-inch 300,000 pixels analog/digital output color board camera **Low distortion lens!**

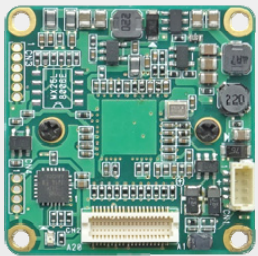


#### Key feature

- Small size at 32(H)×32(W)mm
- 1/4-inch 300,000 pixels CMOS sensor
- Analog NTSC output
- Digital output
- Combined with MS-M213FHDU-USB, USB 2.0 I/F is possible
- Low distortion lens
- High sensitive
- Mirror image
- Low power consumption
- DC+12V
- Cost-effective type

1/4-inch	300,000 pixels CMOS sensor	High sensitive
0.5Lux (F1.4)	Digital output	Analog output
Mirror inversion	Low distortion lens	32(H)×32(W)mm
Approx. 12g	DC+12V	

#### External connectors



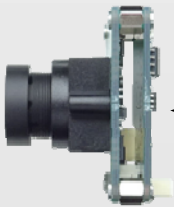
CN1 : Power/Video connector  
BM04B-SRSS-TB  
(Manufactured by JST)

Pin number	Signal name
1	12V
2	GND
3	VIDEO OUT
4	VIDEO GND

CN2 : Power supply, Video output  
DF-12E(4.0)-40DP-0.5V(81) (Manufactured by Hirose Electric)

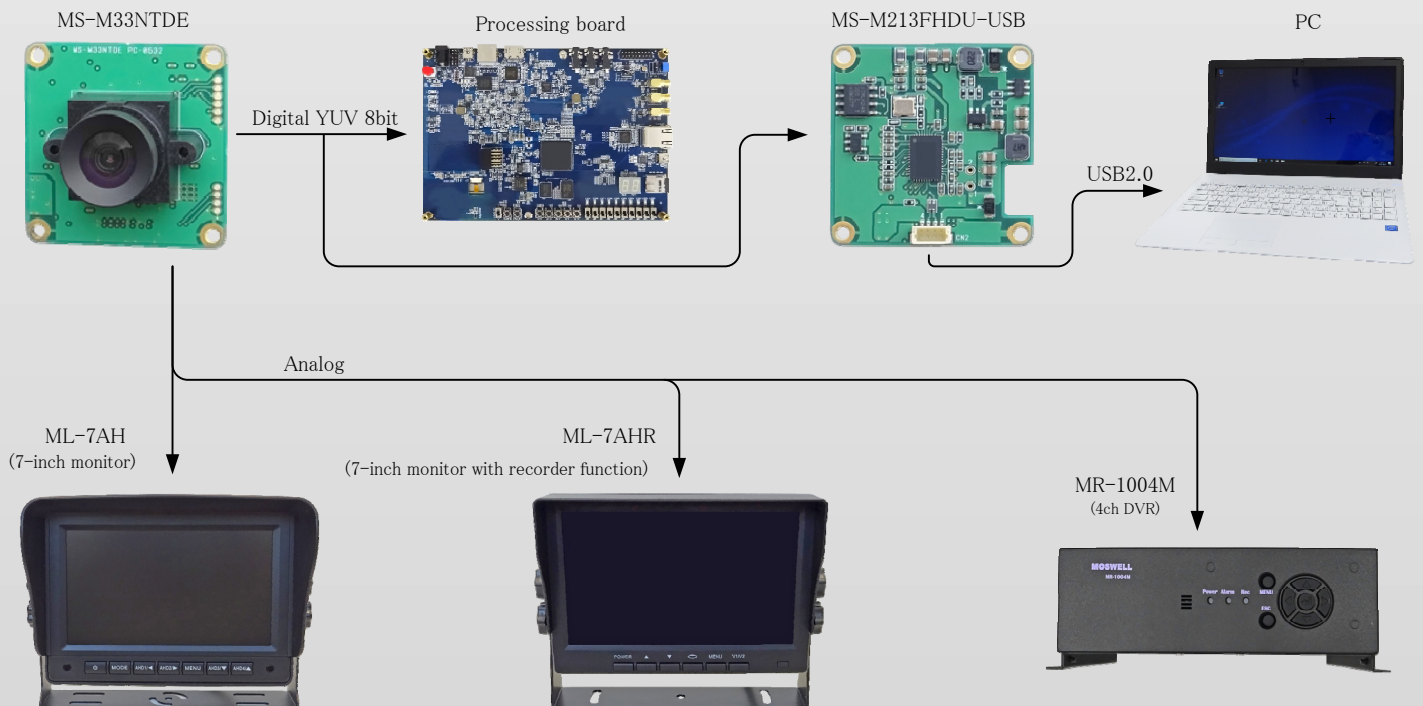
Number	Signal name	Number	Signal name	Number	Signal name	Number	Signal name
A1	+12V IN	A11	GND	B1	+12V IN	B11	GND
A2	GND	A12	V SYNC OUT	B2	GND	B12	OSD
A3	YCbCr7 OUT	A13	H SYNC OUT	B3	-	B13	RESET IN
A4	YCbCr6 OUT	A14	GND	B4	-	B14	SDA
A5	YCbCr5 OUT	A15	PCLK OUT	B5	-	B15	ACL
A6	YCbCr4 OUT	A16	GND	B6	-	B16	GND
A7	YCbCr3 OUT	A17	+4.3V OUT	B7	-	B17	DUMP+
A8	YCbCr2 OUT	A18	-	B8	-	B18	DUMP-
A9	YCbCr1 OUT	A19	MOTION OUT	B9	-	B19	DRIVE+
A10	YCbCr0 OUT	A20	GND	B10	-	B20	GND

\*) Analog and digital outputs are factory set

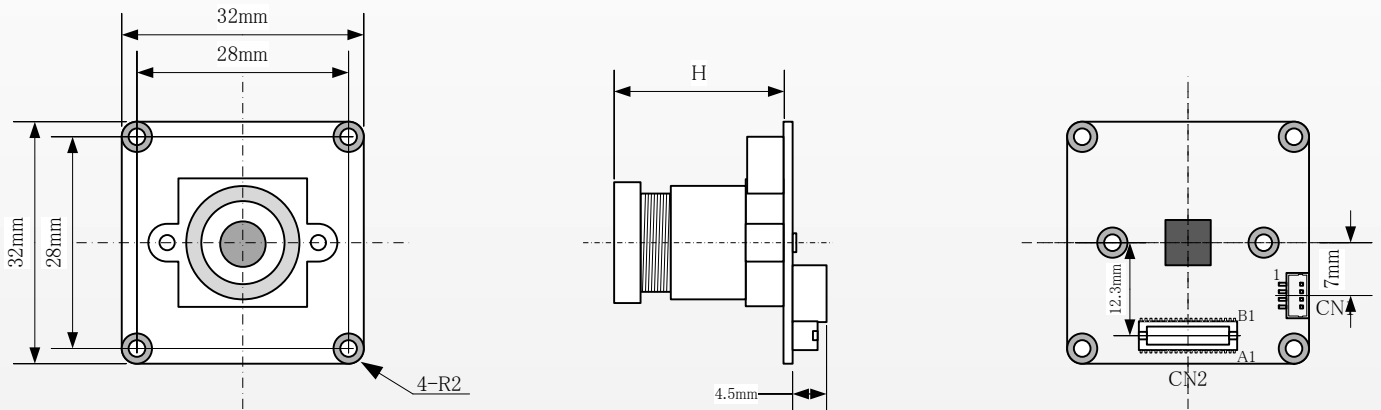


MS-M213FHDU-USB board

#### Examples showing the use



### Externals



TR29 : H=16.5mm    JD30 : H=18.0mm    JD36 : H=19.6mm  
 JD39 : H=22.5mm    JD45 : H=22.5mm    JD60 : H=24.0mm

### Specifications

Item	Specifications
Model	MS-M33NTDE
Image size	1/4-inch color CMOS sensor
Analog video output	VBS: 1.0p.p / 75 Ω
Digital video output	YUV8bit
Number of video output pixels	640(H) × 480(V)
Unit cell size	5.6 μm(H) × 5.6 μm(V)
Scanning system	VBS: Interlaced, YUV: Progressive
Synchronizing system	Internal synchronization
Minimum illumination	0.5Lux(F1.4)
S/N	38dB
AWB	AUTO
AGC	AUTO
Camera shutter	AUTO
Lens mount	S mount(M12) , f=2.9mm,3.0mm,3.6mm,3.9mm,4.5mm,6.0mm
Power supply	DC+12V (±10%)
Power consumption	0.6W
External dimensions (Board)	32(H)×32(W)mm
Weight	Approx.12g
Operating temperature	-10°C ~ +50°C
Operating humidity	20~80%
Components	Camera body, Dedicated harness

### Model

Lens mount selection	Lens type selection
MS - M33NTDE <input type="checkbox"/>	<input type="checkbox"/>
M : M12	TR29 (f=2.9mm , H=62° ,V=47° )
NM : No mount	JD30 (f=3.0mm , H=61° ,V=46° )
	JD36 (f=3.6mm , H=55° ,V=43° )
	JD39 (f=3.9mm , H=50° ,V=38° )
	JD45 (f=4.5mm , H=43° ,V=33° )
	JD60 (f=6.0mm , H=33° ,V=25° )