

SBSI / SBSC

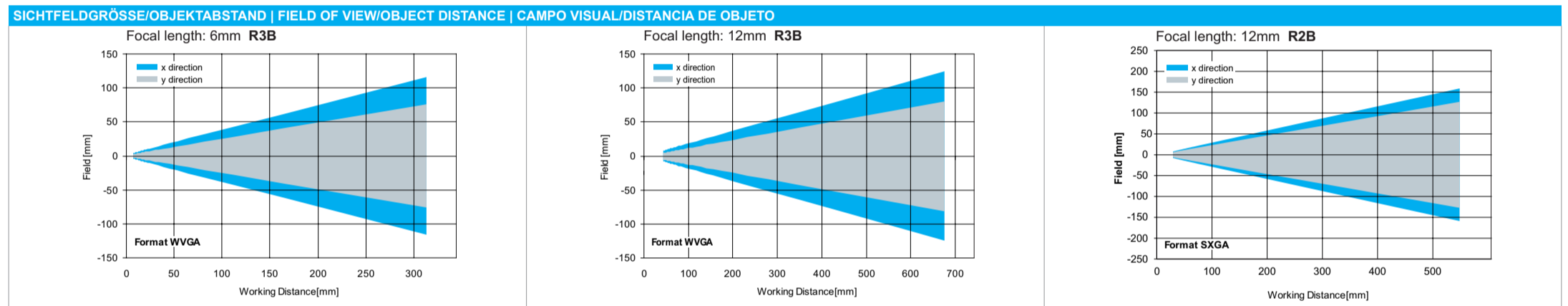
Vision-Sensor
Vision Sensor
Sensor de visión



8090327 2018-07c [8090328]
www.festo.com

TECHNISCHE DATEN	TECHNICAL DATA	DATOS TÉCNICOS
Elektrische Daten	Electrical data	Datos eléctricos
Betriebsspannung +U _B	Operating voltage +U _B	Tensión de servicio U _B
Restwelligkeit innerhalb U _B	Residual ripple within U _B	Ondulación residual
Stromaufnahme (ohne I/O)	Current consumption (no I/O)	Consumo de corriente (sin I/O)
Alle Eingänge	All inputs	Todas las entradas
Eingangswiderstand	Input resistance	Resistencia de entrada
Encoderingang	Encoder input	Entrada de encoder
Ausgänge	Outputs	Salidas
Max. Ausgangsstrom (je Ausgang)	Maximum output current (per output)	Corriente de salida máxima (por salida)
Kurzschlusschutz (alle Ausgänge)	Short-circuit protection (all outputs)	Protección contra cortocircuito (todas las salidas)
Induktive Last	Inductive load	Carga inductiva
Verpolschutz	Reverse-polarity protection	Protección contra polarización inversa U _B
Schnittstellen SBS	Interfaces SBS	Interfaces SBS
Bereitschaftsverzug	Power-on Delay	Retardo de activación
Optische Daten	Optical data	Datos ópticos
Pixel Anzahl, Chipgröße, Pixelgröße	Number of pixels, chip size, pixel size	Número de píxeles, tamaño del chip, tamaño de píxel
Technologie	Technology	Tecnología
Eingebaute Messbeleuchtung	Integrated scan illumination	Iluminación integrada
Eingebautes Objektiv, Brennweite	Integrated lens, focal length	Objetivo integrado, distancia focal
Objektiv (einstellbar bis ∞)	Lens (adjustable to infinity)	Objetivo (ajustable hasta el infinito)
Mindest-Messabstand [mm]	Min. scan distance [mm]	Distancia mínima de medición [mm]
Mindest-Sichtfeld X x Y [mm]	Min. field of view X x Y [mm]	Campo visual mínimo X x Y [mm]
Mechanische Daten	Mechanical data	Datos mecánicos
Länge x Breite x Höhe	Length x width x height	Longitud x anchura x altura
Gewicht	Weight	Peso
Vibration / Schock	Vibration / shock	Vibración / choque
Umgebungstemperatur: Betrieb	Ambient air temperature: operation	Temperatura ambiente de funcionamiento
Umgebungstemperatur: Lager	Ambient air temperature: storage	Temperatura de almacenamiento
Schutzart	Enclosure rating	Grado de protección
Steckeranschluss	Plug connection	Conexión de enchufe
Gehäusematerial	Housing material	Material de la carcasa
		24 V DC, -25 % / +10 %
		< 5 Vss
		≤ 200 mA
		PNP / NPN High > U _B - 1 V, Low < 3 V
		> 20 kOhm
		High > 4 V
		PNP / NPN
		50 mA, Ejector (Pin 12 / RDBU) 100 mA
		Yes
		Typ.: Relais 17 K / 2 H, Pneumatic valve 1.4 K / 190 mH
		Yes
		Ethernet (LAN), RS422/RS232 (for certain models)
		Typ. 13 s after Power on
		SBS- R3B...: 736 (H) x 480 (V), 1/3", 6,0 µm square
		SBS- R2B...: 1280 (H) x 1024 (V), 1/1.8", 5,3 µm square
		CMOS (mono / colour)
		8 LEDs (except C-Mount) White, Red (620 nm), IR (850 nm)
		6, 12 or 25 mm, focal position adjustable
		R3B , 6 mm R3B , 12 mm R2B , 12 mm
		6 30 30
		5 x 4 8 x 6 16 x 13
		65 mm x 45 mm x 45 mm (without plug)
		Approx. 160 g
		EN 60947-5-2
		0 °C ... 50 °C (80 % air humidity, noncondensing)
		-20 °C ... 60 °C (80 % air humidity, noncondensing)
		IP 65 / IP 67
		24 V DC and I/O: M12 12-pin; LAN: M12 4-pin; Data: M12 5-pin
		Aluminium, plastic, RoHS compliant

SICHERHEITSHINWEIS	SAFETY INSTRUCTIONS	INDICACIONES DE SEGURIDAD
Vor Inbetriebnahme die Betriebsanleitung lesen. Anschluss, Montage, Einstellung und Inbetriebnahme nur durch Fachpersonal. Kein Sicherheitsbauteil gemäß EU-Maschinenrichtlinie (nicht zum Schutz von Personen geeignet). Einsatz nicht im Außenbereich.	Read operating instructions before start-up. Connection, assembly, setting and start-up only by trained personnel. No safety component according to EU machinery directives (not suited for the protection of personnel). Not for outdoor use.	Antes de la puesta en marcha, lea las instrucciones de servicio. La conexión, el montaje, el ajuste y la puesta en marcha deben ser efectuados únicamente por personal especializado. No es un componente de seguridad según la directiva de máquinas de la UE (no es adecuado para la protección de personas). No utilizar en el exterior.
Anschlussleitungen sind vom Hersteller erhältlich. Siehe Produktinformationen oder wenden Sie sich an den Kundenservice. Das Gerät muss aus einer "class 2" Quelle versorgt werden.	Adapters providing field wiring means are available from the manufacturer. Refer to manufacturers information. The device shall be supplied from a class 2 rated power supply.	Cables de conexión se pueden obtener del fabricante. Véase las informaciones sobre el producto o póngase en contacto con el servicio de atención al cliente. El aparato debe ser alimentado por una fuente de alimentación „class 2“.
BESTIMMUNGSGEMÄSSE VERWENDUNG	INTENDED USE	USO PREVISTO
Sensor wird zum optischen, berührungslosen Erfassen von Objekten eingesetzt.	Sensor is used for the optical, non-contact detection of objects.	El sensor se usa para la detección óptica sin contacto de objetos.
LIEFERUMFANG	COMPONENTS SUPPLIED	VOLUMEN DE SUMINISTRO
SBS Vision-Sensor, Installationsanleitung, Montageklammer (SBAM-C6-CP), Inbusschlüssel, Schraubendreher, Schutzkappe für Ethernetstecker.	SBS vision sensor, installation guide, mounting clamp (SBAM-C6-CP), allen key, screwdriver, and protective cap for Ethernet plug.	Sensor de visión SBS, instrucciones de servicio, abrazadera de montaje (SBAM-C6-CP), llave Allen, destornillador y tapa protectora para el conector Ethernet.



ELEKTRISCHER ANSCHLUSS | ELECTRICAL CONNECTION | CONEXIÓN ELÉCTRICA

1 LED Anzeige	LED display	Indicador LED
Pwr Grün (Betriebsspannung)	Green (Operating voltage)	verde (Tensión de servicio)
A Gelb (Ergebnis 1)	Yellow (Result 1)	amarillo (Resultado 1)
B Gelb (Ergebnis 2)	Yellow (Result 2)	amarillo (Resultado 2)
C Gelb (Ergebnis 3)	Yellow (Result 3)	amarillo (Resultado 3)

2 Fokussierschraube	Focussing srew	Tornillo de enfoque
Bildscharfstellung	Focus	Enfoque
Uhrzeigersinn = größerer Objektstand	Clockwise = higher distance	Sentido de las agujas del reloj = distancia de objeto más grande
Gegen Uhrzeigersinn = kleinerer Objektstand	Counter Clockwise = lower distance	Sentido contrario de las agujas del reloj = distancia de objeto más pequeña

3 24 V DC, I/O- ANSCHLUSS, M12 24 V DC, I/O CONNECTION SOCKET M12
CONNECTEUR 24 V DC, I/O, M12

PIN	COL.	USE	PIN	COL.	USE
1	BN	+ U _B (24 V DC)	7 ²	BK	IN / OUT, LED B ⁴
2	BU	GND	8 ²	GY	IN / OUT, LED C ⁴
3	WH	IN (external trigger)	9	RD	OUT (ext. illumination)
4	GN	READY ¹	10	VT	IN (adv.: encoder A+)
5 ^{2,5}	PK	IN / OUT (advanced: encoder B+)	11	GYPK	VALID ³
6 ^{2,5}	YE	IN / OUT	12	RDBU	OUT (ejector, max. 100 mA), LED A ⁴

4 Data (RS422) M12 Connection socket																		
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3	TxD-									
4	RxD-									

EXAMPLE SBS - PNP MODE

EXAMPLE SBS - NPN MODE

AUSRICHTUNG | ALIGNMENT | ALINEACIÓN

Anordnung für Hellfeld-Beleuchtung / Arrangement for bright-field illumination / Disposición para iluminación de campo claro

Anordnung für Dunkelfeld-Beleuchtung / Arrangement for dark-field illumination / Disposición para iluminación de campo oscuro

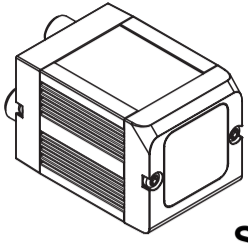
MECHANISCHE INSTALLATION | MECHANICAL INSTALLATION | INSTALACIÓN MECÁNICA

SBAM-C6-CP (8031376)
(Content of delivery)

SBAM-C6-MR-200 / 300
(8058741 / 8058742)

SBAM-C6-A2-AF
(8058739)

VISION-SENSOR C-MOUNT SBSC



SBSI / SBSC

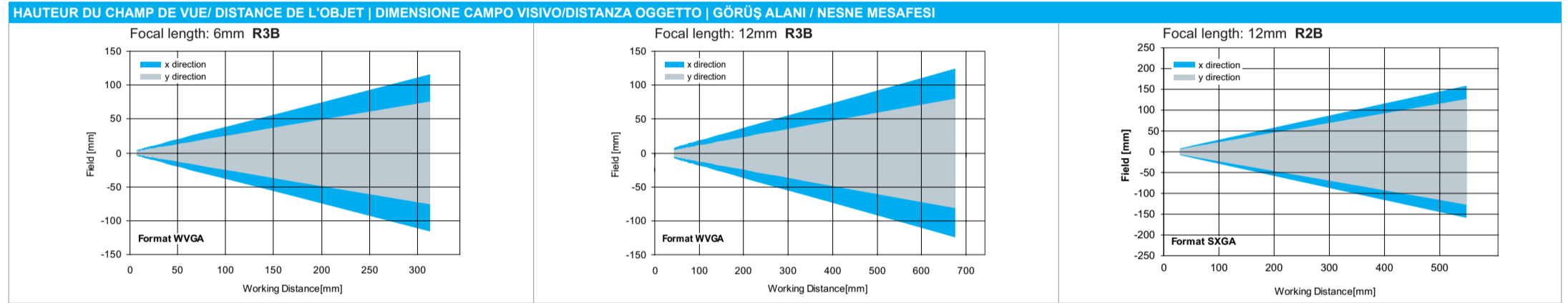
Capteur de Vision
Sensore di Visione
Görüntü sensörü



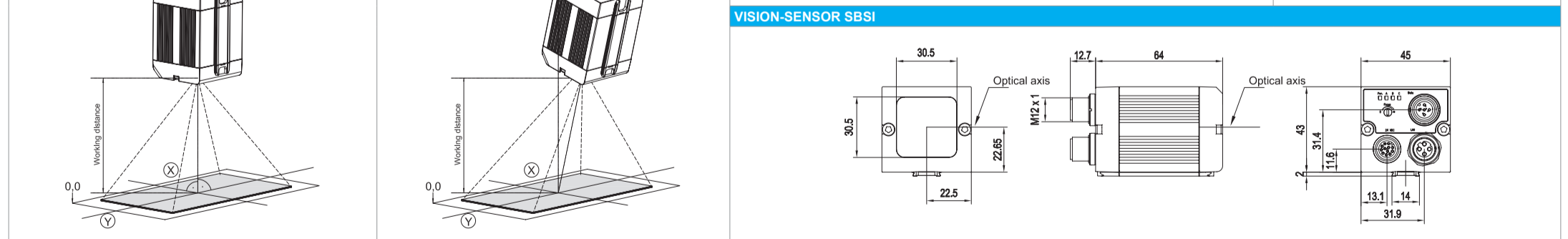
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Ⓣ DONNÉES TECHNIQUES	Ⓣ DATI TECNICI	Ⓣ TEKNİK VERİLER	
Caractéristiques électrique Tension d'alimentation +U _B Ondulation résiduelle à l'intérieur de U _B Consommation (sans I/O Box) Entrées Résistance d'entrée Entrée codeur Sorties Courant de sortie maximum (par sortie) Protection court-circuits (toutes les sorties) Charge inductive Protection contre les inversions de polarité	Caratteristiche elettriche Tensione di esercizio U _B Ondulazione residua Corrente assorbita (senza I/O) Tutti gli ingressi Resistenza in ingresso Ingresso encoder Uscite Max. corrente di uscita (per uscita) Protezione corto circuito (tutte le uscite) Carico induttivo Protezione contro la polarizzazione inversa U _B	Elektrik verileri Çalışma gerilimi U _B U _B dahilinde kalıcı dalgalanma Akım tüketimi (G/Ç olmadan) Tüm girişler Giriş direnci Enkoder girişi Çıkışlar Maks. çıkış akımı (çıkış başına) Kısa devre koruması (tüm çıkışlar) Endüktif yük Ters kutup koruması	24 V DC, -25 % / +10 % < 5 Vss ≤ 200 mA PNP / NPN High > U _B - 1 V, Low < 3 V > 20 kOhm High > 4 V PNP / NPN 50 mA, Ejector (Pin 12 / RDBU) 100 mA Yes Typ.: Relais 17 K / 2 H, Pneumatic valve 1.4 K / 190 mH Yes
Interfaces SBS Temps de démarrage	Interfacce SBS Ritardo operatività	Arabirimler SBS Açılma gecikmesi	Ethernet (LAN), RS422/RS232 (for certain models) Typ. 13 s after Power on
Caractéristiques optiques Nombre de pixel, taille de la puce, la taille du pixel Techno de capteur Éclairage interne Objectif intégré, focale Objectif (réglable jusqu'à l'infini) Distance de travail min [mm] Champ de vue min X x Y [mm]	Caratteristiche ottiche Numero di Pixel, dimensione Chip, dimensione Pixel Tecnologia Illuminazione integrata Obiettivo installato, distanza focale Obiettivo (regolabile fino a ∞) Distanza di misurazione minima [mm] Campo visivo minimo X x Y [mm]	Optik verileri Piksel sayısı, çip boyutu, piksel boyutu Teknoloji Entegre ölçüm aydınlatması Entegre objektif, odak uzaklığı Objektif (sonsuz kademeye ayarlanabilir) Minimum ölçüm mesafesi [mm] Minimum görüş alanı X x Y [mm]	SBS- R3B...: 736 (H) x 480 (V), 1/3", 6,0 µm square SBS- R2B...: 1280 (H) x 1024 (V), 1/1.8", 5,3 µm square CMOS (mono / colour) 8 LEDs (except C-Mount) White, Red (620 nm), IR (850 nm) 6, 12 or 25 mm, focal position adjustable R3B , 6 mm R3B , 12 mm R2B , 12 mm 6 30 30 5 x 4 8 x 6 16x13
Caract. mécaniques Longueur x Largeur x Hauteur Poids Vibrations / Chocs Température ambiante : fonctionnement Température ambiante : stockage Indice de protection Type de connecteurs Matériau du boîtier	Caratteristiche meccaniche Lunghezza x Larghezza x Altezza Peso Vibrazione / Shock Temperatura ambiente di esercizio Temperatura di immagazzinamento Grado di protezione Connettori Materiale della custodia	Mekanik verileri Uzunluk x Genişlik x Yükseklik Ağırlık Titreşim / şok Ortam sıcaklığı: İşletim Ortam sıcaklığı: Depolama Koruma sınıfı Conexión de enchufe Material de la carcasa	65 mm x 45 mm x 45 mm (without plug) Approx. 160 g EN 60947-5-2 0 °C ... 50 °C (80 % air humidity, noncondensing) -20 °C ... 60 °C (80 % air humidity, noncondensing) IP 65 / IP 67 24 V DC and I/O: M12 12-pin; LAN: M12 4-pin; Data: M12 5-pin Aluminium, plastic, RoHS compliant

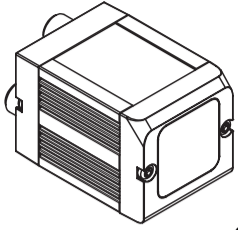
Ⓣ INSTRUCTIONS DE SÉCURITÉ	Ⓣ AVVERTENZA DI SICUREZZA	Ⓣ GÜVENLİK UYARILARI
Lire les instructions de service avant mise en service. Raccordement, assemblage, réglage et mise en service ne doivent être effectués que par du personnel qualifié. Il ne s'agit pas de pièces de sécurité selon les directives européennes en vigueur concernant les machines (inappropriées à la protection de personnes). Ne pas utiliser à l'extérieur. Les câbles de raccordement peuvent être obtenus du fabricant. Voir les informations produits ou contacter le service clients. L'appareil doit être impérativement alimenté par une alimentation CLASS 2.	Prima della messa in funzione leggere le Istruzioni per l'uso. Collegamento, montaggio, regolazione e messa in funzione possono essere eseguiti solo da personale specializzato. Nessun componente di sicurezza secondo la direttiva CE sui macchinari (non adatto per la protezione delle persone). Impiego non adatto per ambienti esterni. "I" cavi di collegamento possono essere richiesti al produttore. Vedi informazioni sul prodotto oppure contattare il servizio assistenza. Il dispositivo deve essere alimentato da un circuito isolato in CLASSE II	Çalıştırmadan önce işletim kılavuzunu okuyun. Bağlantı, montaj, ayarlama ve çalıştırma işlemleri sadece uzman personel tarafından gerçekleştirilmelidir. AB makine emniyeti yönetmeliği uyarınca emniyet parçası yoktur (insanları korumak için uygun değildir). Açık alanda kullanılmaz.
UTILISATION CONFORME Le capteur est utilisé pour la détection optique des objets sans contact.	USO CONFORME Il sensore è utilizzato per il rilevamento ottico e senza contatto di oggetti.	AMACINA UYGUN KULLANIM Sensör, nesnelerin görsel ve temasız şekilde algılanması için kullanılır.
COMPOSANTS FOURNIS Capteur de vision SBS, guide d'installation, 1 pince de montage (SBAM-C6-CP), 1 clé 6 pans, 1 tournevis et 1 protection pour le connecteur Ethernet.	COMPONENTI FORNITI Sensore di visione SBS, istruzioni per l'uso, accessorio di montaggio (MK45), chiave a brugola, cacciavite, coperchio di protezione per spina Ethernet.	VOLUMEN DE SUMINISTRO SBS görüntü sensörü, bilgisayar yazılım CD'si, kurulum kılavuzu, montaj kısıkağı (SBAM-C6-CP), allen anahtar, tornavida, Ethernet soketi için koruyucu kapak.



CONEXIÓN ELÉCTRICA COLLEGAMENTO ELETTRICO ELEKTRİK BAĞLANTISI	1 Affichage LED 1 Indicatore a LED 1 LED gösterge	4 Data (RS422) M12 Connection socket																																																									
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MONTAGE MÉCANIQUE INSTALLAZIONE MECCANICA MEKANİK KURULUM	VISION-SENSOR C-MOUNT SBSC
<p>SBAM-C6-CP (8031376) (Content of delivery)</p>	<p>SBAM-C6-A2-AF (8058739)</p>



SBSI / SBSC

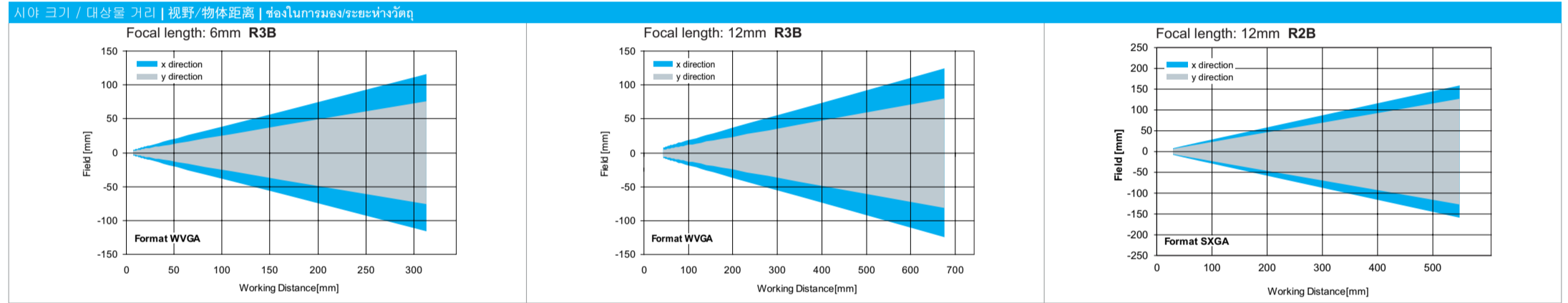
비전 센서
视觉传感器
วิชั่นเซ็นเซอร์



8090327 2018-07c [8090329]
www.festo.com

(KR) 기술 자료	(CN) 技术参数	(TH) ข้อมูลทางเทคนิค	
전기 데이터	电气参数	ข้อมูลทางไฟฟ้า	
작동 전압 +U ₀	工作电压U ₀	แรงดันในการทำงาน +U ₀	24 V DC, -25 % / +10 %
U ₀ 내 잔류 리플	波动范围	ความพิสดวงค้างภายใน U ₀	< 5 Vss
소비 전류(I/O 미포함)	电流消耗 (无输入输出)	การใช้กระแสไฟฟ้า (ไม่มี I/O)	≤ 200 mA
모든 입력	所有输入端	ทางเข้าทั้งหมด	PNP / NPN High > UB - 1 V, Low < 3 V
입력 저항	输入端电阻	ความต้านทานขาเข้า	> 20 kOhm
인코더 입력	编码器输入	สัญญาณเข้าของตัวเข้ารหัส	High > 4 V
출력	输出端	ทางออกต่างๆ	PNP / NPN
최대 출력 전류(출력당)	最大输出电流 (每个输出端)	กระแสไฟฟ้าขาออกสูงสุด (ต่อหนึ่งทางออก)	50 mA, Ejector (Pin 12 / RDBU) 100 mA
단락 보호(모든 출력)	短路保护 (所有输出端)	การป้องกันการลัดวงจร (ทุกทางออก)	Yes
유도 부하	感性负载	โหลดเชิงเหนี่ยวนำ	Typ.: Relais 17 K / 2 H, Pneumatic valve 1.4 K / 190 mH
역극성 보호	电源反接保护UB	การป้องกันขั้วกลับขั้ว	Yes
인터페이스 SBS	SBS 接口	อินเตอร์เฟซ SBS	Ethernet (LAN), RS422/RS232 (for certain models)
작동 대기 지연	启动延迟	ช่วงประวิงในการเปิดเครื่อง	Typ. 13 s after Power on
광학 데이터	光学参数	ข้อมูลทางแสง	
화소 수, 칩 크기, 화소 크기	像素的数量, 芯片尺寸, 像素尺寸	จำนวนพิกเซล, ขนาดชิป, ขนาดพิกเซล	SBS- R3B...: 736 (H) x 480 (V), 1/3", 6.0 μm square SBS- R2B...: 1280 (H) x 1024 (V), 1/1.8", 5.3 μm square CMOS (mono / colour)
기술	工艺	เทคโนโลยี	8 LEDs (except C-Mount) White, Red (620 nm), IR (850 nm)
통합형 측정 조명	内置光源	แสงสว่างของการสแกนแบบในตัว	6, 12 or 25 mm, focal position adjustable
통합형 렌즈, 초점 거리	内置镜头, 焦距	เลนส์ในตัว, ความยาวโฟกัส	R3B , 6 mm R3B , 12 mm R2B , 12 mm
렌즈(무한 조절 가능)	透镜 (可调到无穷大)	เลนส์ (ที่ปรับได้จนถึง ∞)	6 30 30
최소 측정 거리 [mm]	最小工作距离	ระยะสแกนอย่างน้อยที่สุด [mm]	5 x 4 8 x 6 16 x 13
최소 시야 X x Y [mm]	最小视野 X x Y	ช่องในการมองอย่างน้อยที่สุด X x Y [mm]	
기계 데이터	机械参数	ข้อมูลด้านกลไก	
길이 x 너비 x 높이	长 x 宽 x 高	ความยาว x ความกว้าง x ความสูง	65 mm x 45 mm x 45 mm (without plug)
중량	重量	น้ำหนัก	Approx. 160 g
진동 / 충격	震动/冲击	การสั่นสะเทือน/การช็อก	EN 60947-5-2
주변 온도: 작동	工作环境温度	อุณหภูมิอากาศโดยรอบ: การปฏิบัติงาน	0 °C ... 50 °C (80 % air humidity, noncondensing)
주변 온도: 보관	存储温度	อุณหภูมิอากาศโดยรอบ: การเก็บรักษา	-20 °C ... 60 °C (80 % air humidity, noncondensing)
보호 등급	外壳防护等级	ระดับการป้องกัน	IP 65 / IP 67
플러그 연결	连接类型	จุดต่อปลั๊ก	24 V DC and I/O: M12 12-pin; LAN: M12 4-pin; Data: M12 5-pin
하우징 재료	外壳材料	วัสดุที่ใช้	Aluminium, plastic, RoHS compliant

(KR) 안전 수칙	(CN) 安全提示	(TH) ข้อแนะนำด้านความปลอดภัย
시운전 전 사용 설명서를 읽습니다. 연결과 조립, 설정, 시운전 작업은 반드시 전문 인력이 맡아야 합니다. EU 기계류 지침에 부합하는 안전 구성품이 아닙니다(대인 보호용으로 적합하지 않음). 옥외에서 사용해서는 안 됩니다.	在使用传感器前请仔细阅读使用说明书。传感器的连接，安装和设置必须由专业人士完成。没有配备符合欧盟机械标准的安全组件(没有保障人身安全的组件)。不宜室外使用	อ่านข้อแนะนำในการปฏิบัติงานก่อนเดินเครื่อง การเชื่อมต่อ การประกอบ การตั้งค่า และการเดินเครื่องเฉพาะจากบุคลากรที่ผ่านการฝึกอบรมเท่านั้น ไม่มีชิ้นส่วนประกอบที่ปลอดภัยตามข้อกำหนดของกฎระเบียบข้อบังคับที่เกี่ยวข้องกับเครื่องจักรของ EU (ไม่เหมาะสำหรับการป้องกันบุคลากร) อย่านำมาใช้ข้างนอก มีสายเชื่อมต่อกับผู้ผลิตมาให้ กรุณาดูที่ ข้อมูลเกี่ยวกับผลิตภัณฑ์ หรือติดต่อกับแผนกบริการลูกค้า ต้องมีการจ่ายไฟให้อุปกรณ์จากแหล่งจ่ายไฟ "ระดับ 2"
연결 케이블은 제조사로부터 구입 가능합니다. 제품 정보를 참조하시거나 고객 서비스에 문의하십시오. 장치에 공급되는 전원은 2등급이어야 합니다.	可向制造商购买连接线。请参考制造商信息。该设备应用2级电源供电。	การใช้งานตามวัตถุประสงค์ จะนำเซ็นเซอร์มาใช้งานในการตรวจหาวัตถุอย่างไร้การสัมผัสโดยใช้สายตามอง
규정에 따른 사용	用途	ขอบเขตของการจัดส่ง
센서는 대상을 광학 기술로 비접촉식으로 감지하는 데 사용됩니다.	传感器用于对物体光学的，非接触式的检测	SBS วิชั่นเซ็นเซอร์, แผ่น CD ที่มีซอฟต์แวร์สำหรับเครื่อง PC, คำแนะนำในการติดตั้ง, แคลมป์ยึด (SBAM-C6-CP)), ประเภทเหลี่ยม, ไช้ควง, ฝาครอบป้องกันสำหรับปลั๊กอีเทอร์เน็ต
공급 범위	提供部件	
SBS 비전 센서, PC 소프트웨어 CD, 설치 지침, 마운팅 클램프(SBAM-C6-CP), 알렌 키, 드라이버, Ethernet 플러그 보호캡.	SBS传感器, 使用说明, 安装夹, 内六角扳手, 螺丝刀, 网络接口的保护帽	



전기 연결 | 电气连接 | จุดต่อทางไฟฟ้า

1 LED 표시부	(CN) LED灯显示	(TH) จอแสดงผลแบบ LED
Pwr 초록색(작동 전압)	绿光 (工作电压正常)	สีเขียว (แรงดันในการทำงาน)
A 노란색(결과 1)	黄光 (结果1)	สีเหลือง (ผลลัพธ์ 1)
B 노란색(결과 2)	黄光 (结果2)	สีเหลือง (ผลลัพธ์ 2)
C 노란색(결과 3)	黄光 (结果3)	สีเหลือง (ผลลัพธ์ 3)

2 초점 조절 나사	(CN) 焦距旋钮	(TH) สกรูปรับโฟกัส
초점 조절	焦点	การปรับความคมชัดของภาพ
시계 방향 = 대상물과의 거리가 멀 때	顺时针=更远	ทิศทางตามเข็มนาฬิกา = ระยะห่างของวัตถุมากขึ้น
시계 반대 방향 = 대상물과의 거리가 가 가까울 때	逆时针=更近	ทิศทางทวนเข็มนาฬิกา = ระยะห่างของวัตถุลดลง

3 24V DC, M12 I/O 연결부 24 V DC, I/O 接口 M12 24 V DC, จุดต่อ I/O, M12		
PIN COL. USE	PIN COL. USE	
1 BN + Ub (24 V DC)	7 ² BK IN / OUT, LED B ⁴	
2 BU GND	8 ² GY IN / OUT, LED C ⁴	
3 WH IN (external trigger)	9 RD OUT (ext. illumination)	
4 GN READY ¹	10 VT IN (adv.: encoder A+)	
5 ^{2,5} PK IN / OUT (advanced: encoder B+)	11 GYPK VALID ³	
6 ^{2,5} YE IN / OUT	12 RDBU OUT (ejector, max. 100 mA), LED A ⁴	

4 Data (RS422) M12 Connection socket	
	PIN COL. USE
	1 BN RxD+ Rx
	2 WH RxD- NC
	3 BU TxD+ NC
	4 BK TxD- Tx
	5 GY GND GND

5 LAN M12 connection socket	
	PIN USE
	1 TxD+
	2 RxD+
	3 TxD-
	4 RxD-

정렬 | 校准 | การจัดตำแหน่ง

명시야 조명을 위한 배열 / 亮场照明设置 / การจัดแสงไฟด้านที่สว่าง

암시야 조명을 위한 배열 / 暗场照明设置 / การจัดแสงไฟด้านที่มืด

VISION-SENSOR SBSI

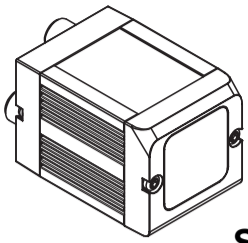
VISION-SENSOR C-MOUNT SBSC

명시야 조명을 위한 배열 / 亮场照明设置 / การจัดแสงไฟด้านที่สว่าง

암시야 조명을 위한 배열 / 暗场照明设置 / การจัดแสงไฟด้านที่มืด

기계 설치 | 安装 | การติดตั้งกลไก

VISION-SENSOR C-MOUNT SBSC



SBSI / SBSC

Optické čidlo
Датчик технического зрения



8090327 2018-07c [8090329]
www.festo.com

TECHNICKÉ ÚDAJE

Elektrické údaje
Provozní napětí +U_B
Zbytkové vlnění v rozsahu U_B
Elektrický příkon (bez I/O)
Všechny vstupy
Vstupní odpor
Vstup pro enkodér
Výstupy
Max. výstupní proud (na výstup)
Ochrana proti zkratu (všechny výstupy)
Induktivní zátěž
Ochrana proti přepólování
Rozhraní SBS
Prodleva zapnutí
Optické údaje
Počet pixelů, velikost čipu, velikost pixelů
Technologie
Zabudované měřící osvětlení
Zabudovaný objektiv, ohnisková vzdálenost
Objektiv (nastavitelný na ∞)
Minimální měřicí vzdálenost [mm]
Minimální zorné pole X x Y [mm]
Mechanické údaje
Délka x šířka x výška
Hmotnost
Vibrace/otřes
Teplota okolí: provoz
Teplota okolí: skladování
Stupeň krytí
Konektor
Materiál skříně

Электрические параметры
Рабочее напряжение +U_B
Остаточная пульсация в пределах U_B
Потребление тока (без входов/выходов)
Все входы
Входное сопротивление
Вход энкодера
Выходы
Макс. выходной ток (на одном выходе)
Защита от короткого замыкания (все выходы)
Индуктивная нагрузка
Защита от неправильной полярности
Интерфейсы SBS
Задержка по включению
Оптические характеристики
Количество пикселей, размер чипа, размер пиксела
Технология
Встроенная измерительная подсветка
Встроенный объектив, фокусное расстояние
Объектив (возможность фокусировки на ∞)
Минимальное дистанция измерения [мм]
Минимальное поле видения X x Y [мм]
Механические характеристики
Длина x Ширина x Высота
Вес
Вибрация / ударное воздействие
Температура окружающей среды: эксплуатация
Температура окружающей среды: хранение
Степень защиты
Штекерный разъем
Материал корпуса

Технические характеристики

24 V DC, -25 % / +10 %
< 5 Vss
≤ 200 mA
PNP / NPN High > UB - 1 V, Low < 3 V
High > 4 V
PNP / NPN
50 mA, Ejector (Pin 12 / RDBU) 100 mA
Yes
Typ.: Relais 17 K / 2 H, Pneumatic valve 1.4 K / 190 mH
Yes
Ethernet (LAN), RS422/RS232 (for certain models)
Typ. 13 s after Power on
SBS- R3B...: 736 (H) x 480 (V), 1/3", 6,0 μm square
SBS- R2B...: 1280 (H) x 1024 (V), 1/1.8", 5,3 μm square
CMOS (mono / colour)
8 LEDs (except C-Mount) White, Red (620 nm), IR (850 nm)
6, 12 or 25 mm, focal position adjustable
R3B, 6 mm **R3B, 12 mm** **R2B, 12 mm**
6 30 30
5 x 4 8 x 6 16 x 13
65 mm x 45 mm x 45 mm (without plug)
Approx. 160 g
EN 60947-5-2
0 °C ... 50 °C (80 % air humidity, noncondensing)
-20 °C ... 60 °C (80 % air humidity, noncondensing)
IP 65 / IP 67
24 V DC and I/O: M12 12-pin; LAN: M12 4-pin; Data: M12 5-pin
Aluminium, plastic, RoHS compliant

BEZPEČNOSTNÍ POKYNY

Před uvedením do provozu si přečtěte návod k obsluze. Připojení, montáž, nastavení a uvedení do provozu smí provádět pouze odborný personál. Nejedná se o bezpečnostní konstrukční součást podle směrnice EU o strojních zařízeních (není vhodné pro ochranu osob). Nepoužívá se ve venkovním prostředí.

Připojovací kabely jsou k dostání u výrobce. Podrobnosti najdete v informacích o výrobku nebo se obraťte na oddělení služeb zákazníkům. Zařízení musí mít napájení ze zdroje s označením „Class 2“.

POUŽÍVÁNÍ V SOULADU S URČENÍM

Čidlo se používá pro optické, bezdotykové snímání objektů.

ROZSAH DODÁVKY

SBS optické čidlo, návod k instalaci, montážní svorka (SBAM-C6-CP), inbusový klíč, šroubovák, ochranný kryt pro zásuvku sítě Ethernet.

ИНСТРУКЦИИ ПО БЕЗОПАСНОСТИ

Перед вводом в эксплуатацию ознакомьтесь с руководством по эксплуатации. Подключение, монтаж, настройка и ввод в эксплуатацию должны проводиться только квалифицированным персоналом. Не является элементом обеспечения безопасности согласно Директиве ЕС по машинному оборудованию (не предназначено для защиты людей). Не применять за пределами помещений.

Соединительные кабели можно приобрести у производителя. См. информацию о продукте или обратитесь в службу поддержки клиентов. Питание прибора должно производиться от источника "class 2".

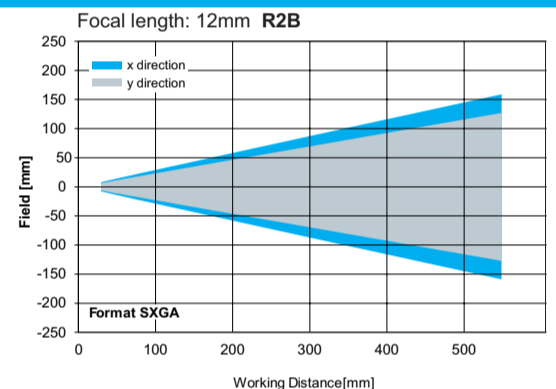
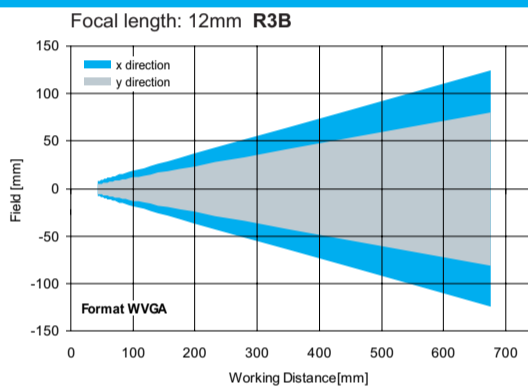
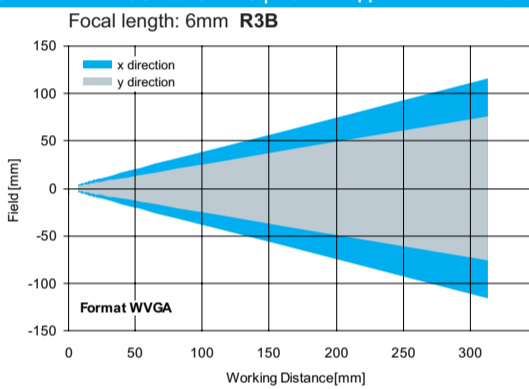
ИСПОЛЬЗОВАНИЕ ПО НАЗНАЧЕНИЮ

Il sensore è utilizzato per il rilevamento ottico e senza contatto di oggetti.

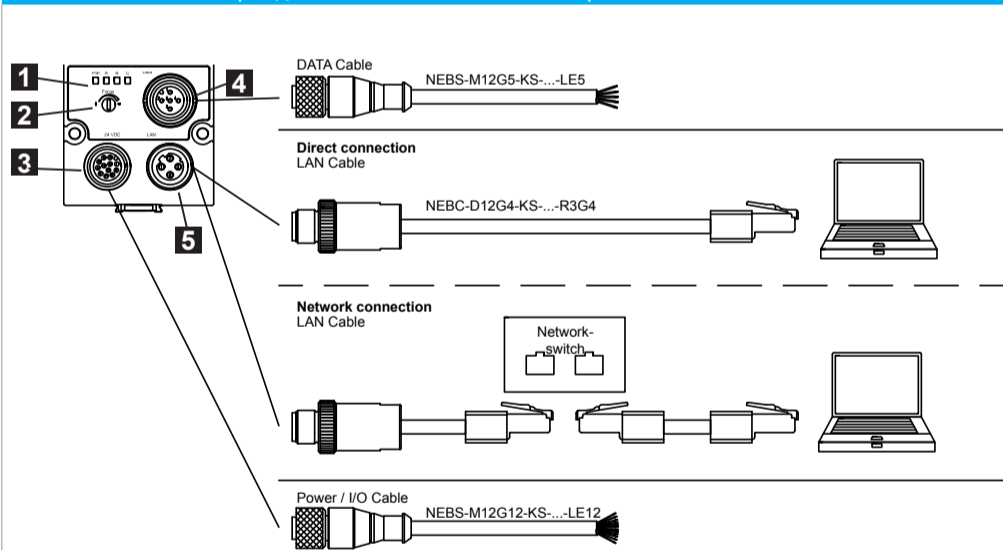
КОМПЛЕКТ ПОСТАВКИ

SBS датчик технического зрения, инструкция по монтажу, монтажная скоба (SBAM-C6-CP), ключ-шестигранник, отвертка, защитный колпачок для штекера Ethernet.

ZORNÉ POLE/VZDÁLENOSŤ OBJEKTŮ | ПОЛЕ ВИДЕНИЯ / РАССТОЯНИЕ ДО ОБЪЕКТА



ELEKTRICKÉ PŘIPOJENÍ | ПОДКЛЮЧЕНИЕ ЭЛЕКТРОПИТАНИЯ | ELEKTRIK BAĞLANTISI



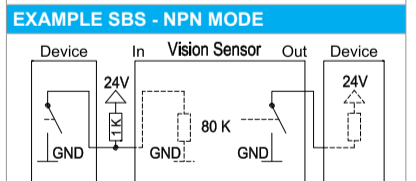
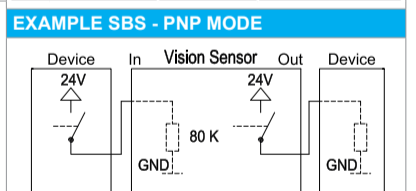
1	LED displej	Светодиодная индикация
Pwr	Zelený (provozní napětí)	Зеленый (рабочее напряжение)
A	Žlutý (výsledek 1)	Желтый (результат 1)
B	Žlutý (výsledek 2)	Желтый (результат 2)
C	Žlutý (výsledek 3)	Желтый (результат 3)

2	Zaostřovací šroub	Винт фокусировки
	Zaostření	Настройка резкости
	Ve směru hodinových ručiček = větší vzdálenost objektu	По часовой стрелке = большее расстояние до объекта
	Proti směru hodinových ručiček = menší vzdálenost objektu	Против часовой стрелки = меньшее расстояние до объекта

3	24 V DC, PŘIPOJKA I/O, M12 24 В ПОСТ. ТОКА, РАЗЪЕМ ВХОДОВ/ВЫХОДОВ, M12	24 V DC, PŘIPOJKA I/O, M12 24 В ПОСТ. ТОКА, РАЗЪЕМ ВХОДОВ/ВЫХОДОВ, M12
	1 BN + U _B (24 V DC)	7 ² BK IN / OUT, LED B ⁴
	2 BU GND	8 ² GY IN / OUT, LED C ⁴
	3 WH IN (external trigger)	9 RD OUT (ext. illumination)
	4 GN READY ¹	10 VT IN (adv.: encoder A+)
	5 ^{2,5} PK IN / OUT (advanced: encoder B+)	11 GYPK VALID ³
	6 ^{2,5} YE IN / OUT	12 RDBU OUT (ejector, max. 100 mA), LED A ⁴

4	Data (RS422) M12 Connection socket	PIN COL. USE	RS422 USE	RS232 USE
		1 BN	RxD+	Rx
		2 WH	RxD-	NC
		3 BU	TxD+	NC
		4 BK	TxD-	Tx
		5 GY	GND	GND

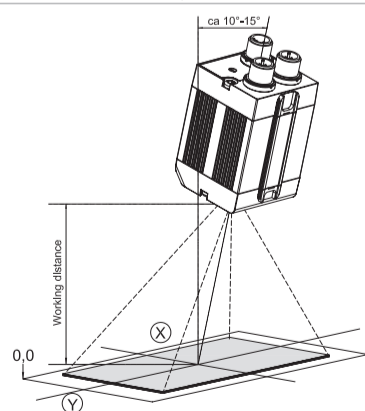
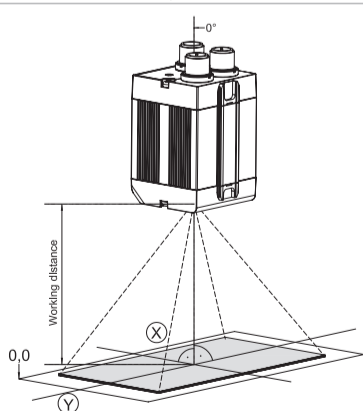
5	LAN M12 connection socket	PIN USE
		1 TxD+
		2 RxD+
		3 TxD-
		4 RxD-



SEŘÍZENÍ I ВЫРАВНИВАНИЕ

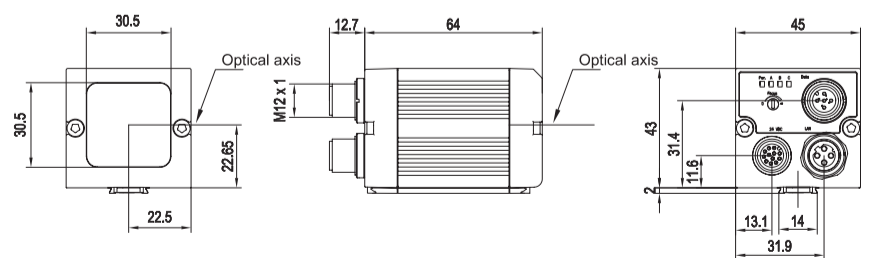
Nastavení pro osvětlení v jasném poli / Размещение при освещении по методу светлого поля

Nastavení pro osvětlení v tmavém poli / Размещение при освещении по методу темного поля



*1 Ready: Ready for next ext. trigger.
*2 Switchable input - output
*3 VALID: shows available results
*4 All LEDs are set without taking into account any timing function (e.g. trigger delay).
For shielded cables use shield.

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MECHANISCHE INSTALLATION | MECHANICAL INSTALLATION

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