

Medium-Intensity Type B/C

ICAO MI Type B/C 2000 cd
FAA L864, L885

OBELUX
AVIATION LIGHTS

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Optical Characteristics:

- ▶ 2 000cd (effective)
- ▶ Colour aviation RED
- ▶ NVG compliant infrared (850nm) as an option
- ▶ Horizontal beam 360°
- ▶ Vertical beam 3°
- ▶ Maximum intensity at -1° is less than 1 125cd
- ▶ Maximum intensity at -10° is less than 75cd

Specifications met

ICAO International Standards and Recommended Practices: Aerodromes Annex 14 Volume 1, 8th Edition, July 2018, Chapter 6: Medium-intensity Type B/C. Fulfills the Recommendations Section in Table 6-3.

FAA Compliant,
Advisory Circular AC 150/5345-43J:
FAA L-864, L-885

nach Nr. 28 der Allgemeinen
Verwaltungsvorschrift zur
Kennzeichnung von
Luftfahrthindernissen (AVV
Kennzeichnung), Germany

Feux de balisage d'obstacle, DGAC,
STAC, France

Transport Canada, CAR 621,
CL-864, CL-885

Agencia Estatal de Seguridad Aérea
(AESA), Mexico

TSFS 2020:88



Photo only for illustration.

Medium-Intensity Red 2 000 cd

LED Aviation Obstruction Lights

Obelux medium-intensity stand-alone 2 000 cd Red model is used for marking tall structures, such as wind turbines, transmission masts, chimneys, broadcast masts, etc. The product offers unique features such as incorporated fault monitoring, photocell, GPS synchronization, and it supports both stand-alone and Modbus operation as a part of Obelux aviation light system network.

Key Features

- ▶ Based on LED technology
- ▶ 2 000 cd (effective) RED fixed or flashing
- ▶ Supports both stand-alone and Modbus operations
- ▶ Suitable for Offshore environment
- ▶ Incorporated GPS synchronisation
- ▶ Adjustable luminous output levels 10%, 30%, and 100%
- ▶ Incorporated photocell and fault monitoring
- ▶ Hot start feature for radar controlled systems
- ▶ Design lifetime more than 20 years
- ▶ 5-year warranty- the longest in the industry

Electrical Characteristics

- ▶ Operating voltage (ACW):
Nominal 100-240 V_{AC} ± 10%, 50Hz / 60Hz ± 6%
Range 90-265 V_{AC}
- ▶ Operating voltage (DC): 20-60 V_{DC}
- ▶ Flash rates: 20/30/40/60 fpm
- ▶ Meets standards
EMC (Emissions): EN 61000-6-4
EMC (Immunity): EN 61000-6-2
- ▶ Overvoltage protection
- ▶ Alarm relay output NO/NC dry contact
Switch voltage / max current: 50 V_{DC} / 1 A, 250 V_{AC} / 6 A
- ▶ Modbus RS-485 isolated

Power Consumptions

- ▶ ACW versions:
 - 17W @ Night (RED, 40 fpm)
 - 20W @ Night (RED+IR, 40 fpm)
 - 25W @ Night (RED, fixed)
 - 30W @ Night (RED+IR, fixed)

(Power consumptions are for 50% flash pulse length of the selected flash rate)

Recommended Cables:

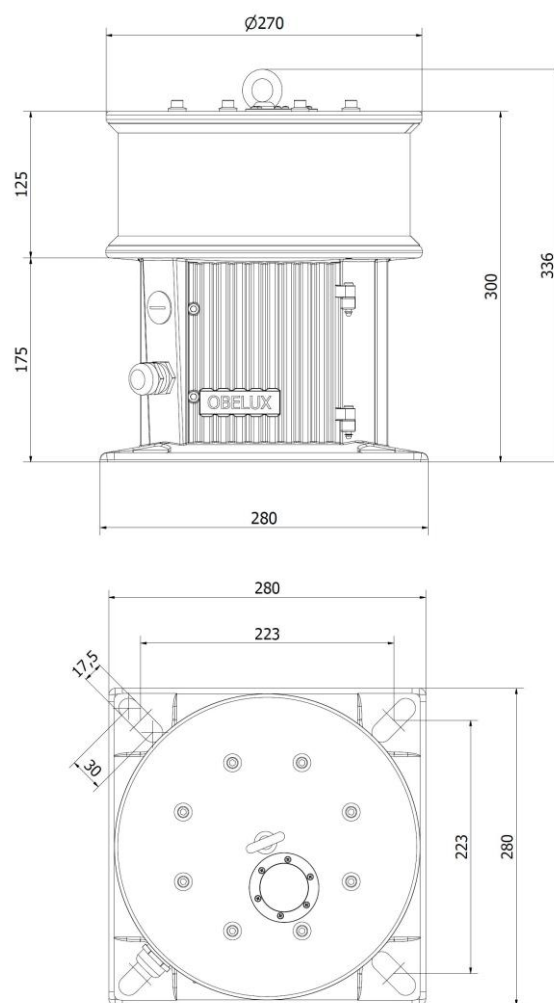
- ▶ Power (ACW): 3G1,5 mm² or 3G2,5 mm²
- ▶ Data: 3x0,5 mm² - 3x1,5 mm² shielded
- ▶ Alarm: 3x0,5 mm² - 3x1,5 mm²
- ▶ Power + Alarm: 6G1,5 mm², 6G2,5 mm² or hybrid cable
- ▶ Power + Data: Hybrid cable (e.g., Servo cable)
- ▶ Terminals can be used to distribute power and data to another light head (6 core or hybrid cable must be used).

Options

- ▶ Cold-climate version (CCV)
- ▶ NVG compliant infrared (IR)
- ▶ Add-on cards:
 - 4 Input 4 Output (IO) interface
 - Ethernet interface (1 x RJ-45)
 - 4-port switch (2 x RJ-45, 2 x Fiber)
- ▶ Mounting sets (see appendix A)
- ▶ Pre-attached cables (see appendixes B and C)

Mechanical Characteristics

- ▶ Painted marine grade aluminium body (C5MHigh)
- ▶ Glass cover
- ▶ Degree of protection IP66
- ▶ Operating temperature range -40...+55 °C
- ▶ Mounting 240x240mm, Ø17mm holes
- ▶ Height 336 mm, length 280 mm
- ▶ Weight 11 kg
- ▶ Cable glands M25 for Ø11-17 mm cables (seal for Ø6-13 mm cables included)



Order code:	Output:	ICAO:	Operating voltage:	GPS:	Infrared:	CCV:	Photocell and Fault monitoring:	Packing dimensions:
MI-ACWGAM-x	2 000 cd	Type B/C	90-265 V _{AC}	Yes	No	No	Yes	460x330x330 mm, 12,7 kg
MI-ACWIRGAM-x	2 000 cd	Type B/C	90-265 V _{AC}	Yes	Yes	No	Yes	460x330x330 mm, 12,7 kg
MI-ACWCCVGAM-x	2 000 cd	Type B/C	90-265 V _{AC}	Yes	No	Yes	Yes	460x330x330 mm, 12,7 kg
MI-ACWCCVIRGAM-x	2 000 cd	Type B/C	90-265 V _{AC}	Yes	Yes	Yes	Yes	460x330x330 mm, 12,7 kg
MI-DCGAM-x	2 000 cd	Type B/C	20-60 V _{DC}	Yes	No	No	Yes	460x330x330 mm, 12,7 kg
MI-DCIRGAM-x	2 000 cd	Type B/C	20-60 V _{DC}	Yes	Yes	No	Yes	460x330x330 mm, 12,7 kg
MI-DCCCVGAM-x	2 000 cd	Type B/C	20-60 V _{DC}	Yes	No	Yes	Yes	460x330x330 mm, 12,7 kg
MI-DCCCVIRGAM-x	2 000 cd	Type B/C	20-60 V _{DC}	Yes	Yes	Yes	Yes	460x330x330 mm, 12,7 kg

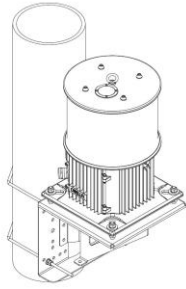
x:

IO = 4 Input 4 Output (IO) interface

E = Ethernet interface (1 x RJ45 connector)

EF = 4-port switch (2 x RJ-45 connectors + 2 x Fiber SC Multimode female connectors)

Appendix A: Available mounting sets



Obelux MS-MIV1001 / 1002:

- ▶ Mounting set for wall mounting and for 60-200mm tubes.
- ▶ Mounting set includes bracket, U-bolts, and fasteners.
- ▶ Mounting bracket AISI 304 stainless steel or AISI 316 acid-proof steel, other parts AISI 316 acid-proof steel.

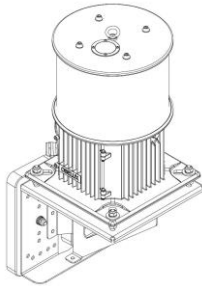
More detailed mechanical data: see MS-MIV1001/1002 datasheet.

▶ **Order Code: MS-MIV1001**

(AISI 304 stainless steel bracket)

▶ **Order Code: MS-MIV1002**

(AISI 316 acid-proof steel bracket)



Obelux MS-MIV1003:

- ▶ Mounting set for wall mounting with magnets.
- ▶ Mounting set includes bracket, magnets, and fasteners.
- ▶ Magnet holder marine grade anodised aluminium, other parts AISI 316 acid-proof steel.

More detailed mechanical data: see MS-MIV1003 datasheet.

▶ **Order Code: MS-MIV1003**

Appendix B: Pre-attached cable (HAN6)

Cable specification:

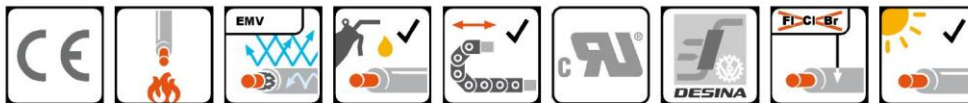
SERVO cable FACAB EFK SERVO-CP acc. to Siemens Standard 6FX8008+



Specification/standard:	UL/CSA
conductor material:	bare copper
conductor construction:	fine stranded class 6
insulation:	polypropylen
screen:	Cu-braid, tinned
screen coverage:	85 %
sheathing material:	polyurethan
colour of outer sheath:	orange RAL 2003 (DESINA)
flame retardant:	VDE 0482-332-1-2/IEC 60332-1
halogen free:	DIN EN 50267/IEC 60754
oil resistant:	EN 60811-2-1
max. operating temperature, fixed:	-50 - +80 °C
temperature, moved/during installation:	-40 - +80 °C
bending radius, fixed installation:	5 x DA
bending radius, moved application:	7,5 x DA
Bending cycles, max.:	5 Mio.
Moving distance, max.:	100 m
nominal voltage U ₀ :	600 V
nominal voltage U:	1 kV
test voltage:	4 kV
core identification:	acc. to Siemens specification

Application: Low capacity connection cable between servo controller and frequency driven motor. For application in machine tools and drag chains with medium mechanical stress. Please pay attention to our instructions for the use of drag-chain cables.

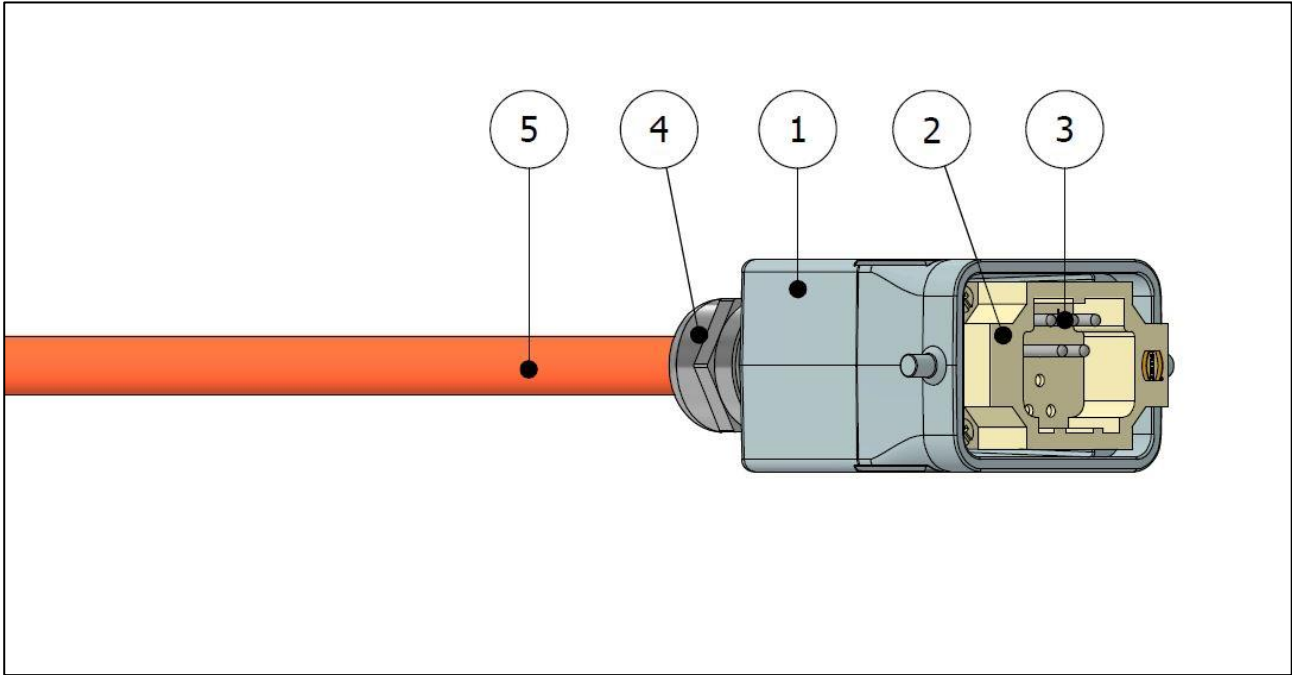
Additional information: Siemens part numbers (6FX...) are registered trade marks of Siemens AG and used only as reference.



The products and information presented here are for technical calculation only. They are subject to technical progress and in no way represent the ability of shipment. Outer diameters are approximately.

p/n	part name	D _A [mm]	G [kg]	Cu [kg/km]	p/n	part name	D _A [mm]	G [kg]	Cu [kg/km]
035291	[4G25] 0,6/1 kV OR cUL - 6FX8008-1BB25	25,4	1523	1100	035298	[4G6+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA41	16,8	540	365
035292	[4G35] 0,6/1 kV OR cUL - 6FX8008-1BB35	28,6	2080	1510	035299	[4G10+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA516FX8008-1BA5	19,9	782	560
035293	[4G50] 0,6/1 kV OR cUL - 6FX8008-1BB50	33,4	2710	2130	035300	[4G16+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA616FX8008-1BA6	22,5	1101	816
035294	[4G70] 0,6/1 kV OR cUL - 6FX8008-1BB70	42,5	4123	3025	035301	[4G25+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA256FX8008-1BA2	26,2	1490	1172
035295	[4G1,5+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA116FX8008-1BA1	11,6	244	163,5	035302	[4G35+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA356FX8008-1BA3	29,8	2015	1595
035296	[4G2,5+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA21 6FX8008-1BA21	13,4	310	189	035303	[4G50+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA50	34	2754	2214
035297	[4G4+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA316FX8008-1BA3	14,8	408	260,5					
DA	outer diameter								
G	weight								
Cu	copper								

Connector parts:



- | | | |
|-------------|--|----------------|
| 1. Housing: | HAN HC2 Pegs Top Entry M25 | 19 30 006 0446 |
| 2. Insert: | HAN EE 10pos Male Crimp | 09 32 010 3001 |
| 3. Crimp: | Contact HAN E Male Ag 1,5mm ² | 09 33 000 6104 |
| 4. Gland: | M25x1.5 EMC | |
| 5. Cable: | Servo 4G1,5+(2x1,5) | |

Connector pinouts:

Alarm Relay		Modbus	
Pin number:	Designation:	Pin number:	Designation:
1	L (+ with DC)	1	L (+ with DC)
2	N (- with DC)	2	N (- with DC)
3	NO	3	D+
4	COM	4	D-
5	NC	5	SH
6	-	6	-
7	-	7	-
8	-	8	-
9	-	9	-
10	-	10	-
PE	PE	PE	PE

Order code:

Syntax for order code: **[Light unit name]-[Cable length]-[Connector type]**
For “Alarm Relay” pinout: Use GA (instead of GAM) in the product code
For “Modbus” pinout: Use GAM in the product code

Example: MI-ACWCCVIRGA-2.70M-HAN6 (Alarm Relay, 2,7m cable with HAN6 connector)
Example: MI-ACWCCVIRGAM-2.70M-HAN6 (Modbus, 2,7m cable with HAN6 connector)

Appendix C: Pre-attached cable (open ended)

Cable specification:

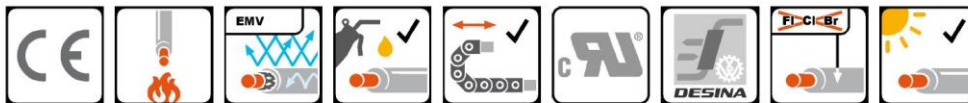
SERVO cable FACAB EFK SERVO-CP acc. to Siemens Standard 6FX8008+



Specification/standard:	UL/CSA
conductor material:	bare copper
conductor construction:	fine stranded class 6
insulation:	polypropylen
screen:	Cu-braid, tinned
screen coverage:	85 %
sheathing material:	polyurethan
colour of outer sheath:	orange RAL 2003 (DESINA)
flame retardant:	VDE 0482-332-1-2/IEC 60332-1
halogen free:	DIN EN 50267/IEC 60754
oil resistant:	EN 60811-2-1
max. operating temperature, fixed:	-50 - +80 °C
temperature, moved/during installation:	-40 - +80 °C
bending radius, fixed installation:	5 x DA
bending radius, moved application:	7,5 x DA
Bending cycles, max.:	5 Mio.
Moving distance, max.:	100 m
nominal voltage U ₀ :	600 V
nominal voltage U:	1 kV
test voltage:	4 kV
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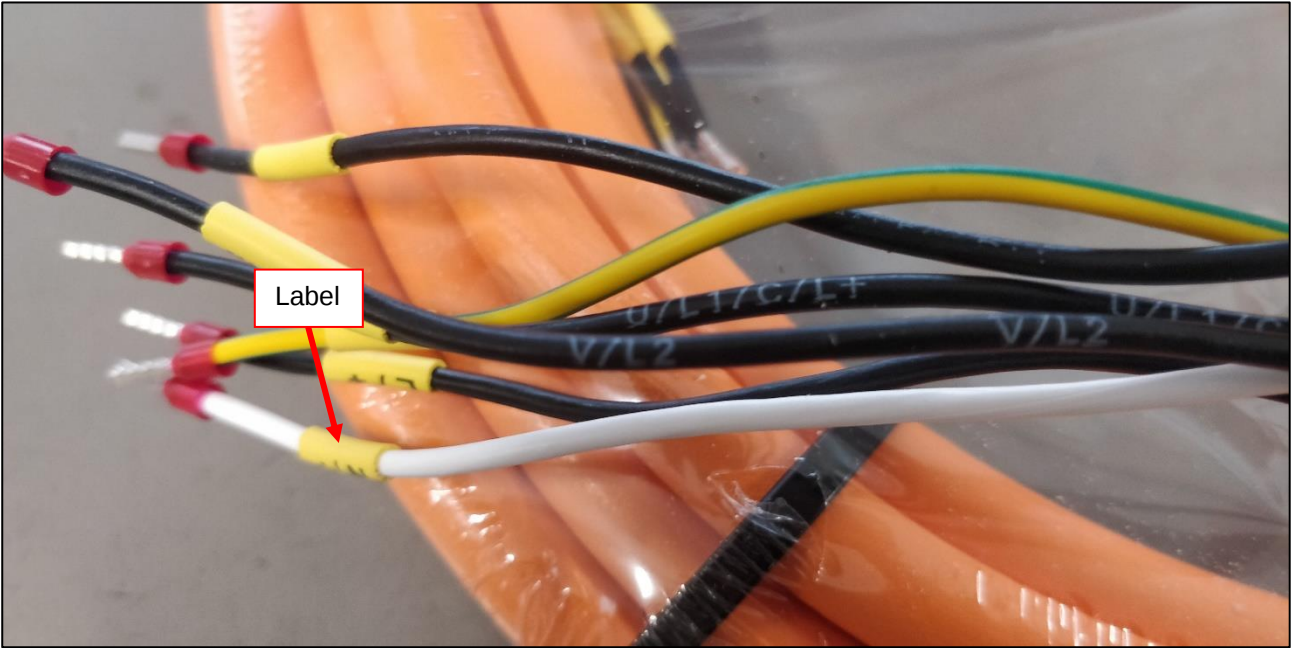
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035292	[4G35] 0,6/1 kV OR cUL - 6FX8008-1BB35	28,6	2080	1510
035293	[4G50] 0,6/1 kV OR cUL - 6FX8008-1BB50	33,4	2710	2130
035294	[4G70] 0,6/1 kV OR cUL - 6FX8008-1BB70	42,5	4123	3025
035295	[4G1,5+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA116FX8008-1BA1	11,6	244	163,5
035296	[4G2,5+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA21 6FX8008-1BA21	13,4	310	189
035297	[4G4+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA316FX8008-1BA3	14,8	408	260,5
035298	[4G6+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA41	16,8	540	365
035299	[4G10+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA516FX8008-1BA5	19,9	782	560
035300	[4G16+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA616FX8008-1BA6	22,5	1101	816
035301	[4G25+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA256FX8008-1BA2	26,2	1490	1172
035302	[4G35+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA356FX8008-1BA3	29,8	2015	1595
035303	[4G50+(2X1,5)] 0,6/1 kV OR cUL - 6FX8008-1BA50	34	2754	2214
DA	outer diameter			
G	weight			
Cu	copper			

Wire designations:



Alarm Relay		Modbus	
Label:	Designation:	Label:	Designation:
L / +	L (+ with DC)	L / +	L (+ with DC)
N / -	N (- with DC)	N / -	N (- with DC)
PE	PE	PE	PE
NO	NO	D+	D+
COM	COM	D-	D-
NC	NC	SH	SH

Order code:

Syntax for order code: **[Light unit name]-[Cable length]**
For “Alarm Relay” pinout: Use GA (instead of GAM) in the product code
For “Modbus” pinout: Use GAM in the product code

Example: MI-ACWCCVIRGA-5.0M (Alarm Relay, 5,0m cable)
Example: MI-ACWCCVIRGAM-5.0M (Modbus, 5,0m cable)